06-Ker-58, PM T31.7/R55.6 06-Ker-99, PM 21.2/26.2 Program Code 20.10.400.200 EA 06-48460 November 2012

# FINAL TRAFFIC STUDY REPORT

# Volume II

(Part 1 of 2)

for the

### CENTENNIAL CORRIDOR PROJECT

58 in Bakersfield					
Cottonwood Road					
Interstate 5					

APPROVAL RECOMMENDED:

Steven Milton, P.E. - Project Manager

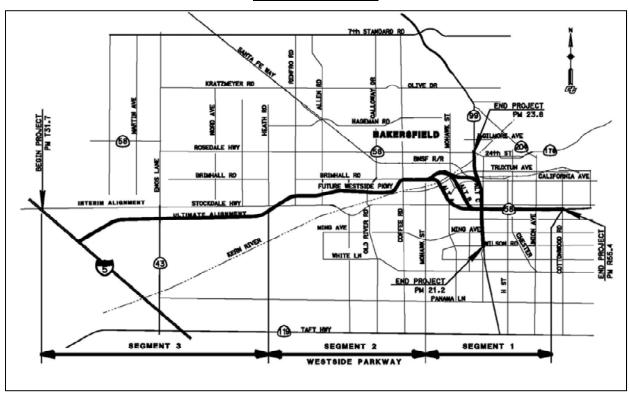
APPROVED:

Sharri Bender Ehlert –District 6 Director

Date |

06-Ker-58, PM T31.7/R55.4 06-Ker-99, PM 21.2/23.8 Program Code 20.10.400.200 EA 06-48460 August 2012

### **VICINITY MAP**



on Route 58 in Bakersfield

between Interstate 5

and <u>Cottonwood Road</u>

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No-Build Conditions

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STEAM 2.0 Model Output

# **EXISTING CONDITIONS**



#### **TECHNICAL MEMORANDUM**

Date:

December 3, 2010

To:

Steve McDonald and Koko Widyatmoko, Caltrans

Steve Crouch, TRIP Corridor Manager Curt Hatton, Caltrans Project Manager Ravi Puttagunta, TRIP PMC (Parsons) Jim Billings and Traci Gleason, HNTB

From:

Rob Hananouchi, Bill Penney, and Fred Choa, Fehr & Peers

Subject:

Centennial Corridor Project-Existing Conditions Freeway Analysis Results

Updated Based on TRIP/Caltrans Comments

RS08-2569

The purpose of this technical memorandum is to present the existing conditions freeway analysis results for the Centennial Corridor Project. Based on comments received from Caltrans and TRIP/Parsons (see Attachment 1) we have updated this formal submittal for the Centennial Corridor Project–Existing Conditions Freeway Analysis Results.

#### **EXISTING TRAFFIC VOLUMES**

The traffic counts for the majority of the freeway analysis locations were collected on October 28, 2008. The exceptions are the southbound SR 99 ramps at Ming Avenue (PM only), southbound SR 99 on-ramp at Airport Drive, and the Rosedale Highway/Buck Owens Boulevard interchange ramps. The first two locations were counted on November 20, 2008 and December 9 and 10, 2008. The last location uses data collected for the Rosedale Widening project on November 6 and 8, 2007.

The SR 58 mainline was counted between Real Road and SR 99. The SR 99 mainline was counted between Ming Avenue and SR 58. For both of these mainline segments, the morning peak hour started at 7:15 AM and the afternoon peak hour started at 4:45 PM.

Truck volumes were collected at all locations counted in 2008. For the purposes of the counts, trucks were considered to be all heavy vehicles with two or more axles including delivery vans, buses, and recreational vehicles.

#### **ANALYSIS METHODOLOGY**

The freeway study area includes State Route (SR) 99 from south of White Lane to north of Airport Road and SR 58 from SR 99 to east of Union Avenue (SR 204). Using the method described in the *Highway Capacity Manual* (pages 22-4 and 22-5), the freeway segments were divided into basic, merge, diverge, and weave analysis locations. We have analyzed the freeway basic, merge, and diverge sections according to the procedures in the *Highway Capacity Manual*. For weave sections, we used the Leisch Method as specified in Section 504.7 of the *Highway Design Manual*.

Existing Conditions Analysis Results December 3, 2010 Page 2 of 7



Under existing conditions, the traffic volumes, peak hour factors, and truck percentages are based on either field collected data or adjusted data that was approved by Caltrans and TRIP/parsons before being used in the freeway operations analysis. The adjusted peak hour factors and truck percentages were based on discussions at traffic focus meetings and

Distances for acceleration lanes (merge), deceleration lanes (diverge), and weaving lengths (weave) were determined from aerial photographs. For weave sections, the weaving volumes were developed using select link volumes from the KernCOG Regional Travel Demand Forecasting (TDF) Model. Figure 1 shows the freeway lane configurations under existing conditions, and Figure 2 shows the existing conditions traffic volumes.

The *Highway Capacity Manual* equations for freeway basic, merge, and diverge section analysis were incorporated in an Excel spreadsheet for ease of data entry and comparison among multiple locations. For comparison, we have provided HCS+ software results for three study locations in Attachment 4 (i.e. one basic, one merge, and one diverge section).

The only weave section under existing conditions is eastbound SR 58 between SR 99 and H Street. This segment is a "two-sided" weave. That is, the ramp from Real Road functions as a left-side on-ramp, and the H Street off-ramp is on the right side. So, traffic from Real Road exiting to H Street must weave across the mainline. The Leisch Method for a two-sided weave section is described in *Procedure for Analysis and Design of Weaving Sections* (Jack E. Leisch, October 1985), which also describes the one-sided weave analysis method presented in the *Highway Design Manual*.

The peak hour volumes used in the analysis of each ramp were determined by the peak hour at each individual ramp. The peak hour ramp volumes were used to balance the mainline volumes between interchanges.

The freeway mainline volumes between other interchanges were calculated by adding and/or subtracting the peak hour volumes at the on-ramps and off-ramps as described in the previous paragraph.

For the Rosedale Highway intersections, the truck volumes assumed for the Rosedale Widening intersection analysis were used. Truck percentages were calculated as the truck volume divided by total volume.

Peak hour factors (PHF) were calculated for each ramp and the mainline segment between interchanges based on field collected data and adjusted to ensure balanced traffic volumes. As a guideline, the PHF calculation was adjusted when necessary based on the following volume thresholds documented on page 5-4 of the Synchro 6 User Guide:

- Volume approach is greater than 2,000 vehicles per hour, PHF = 0.95
- Volume approach is between 1,000 to 2,000 vehicles per hour, PHF = 0.93
- Volume approach is between 500 to 1,000 vehicles per hour, PHF = 0.92
- Volume approach is between 200 to 500 vehicles per hour, PHF = 0.87
- Volume approach is between 100 to 200 vehicles per hour, PHF = 0.83
- Volume approach is between 1 to 100 vehicles per hour, PHF = 0.78



#### **EXISTING CONDITIONS ANALYSIS RESULTS**

Tables 1 through 4 below present the freeway analysis results for the study area under existing conditions. Attachment 2 lists the HCM basic, merge, and diverge calculations, and Attachment 3 provides the Leisch weave calculations.

For eastbound SR 58 (see Table 1), the section between Chester Avenue and Union Avenue generally has the highest peak hour volumes in the study area. As a result, the density is the highest in this section. During both the AM and PM peak hours, the Union Avenue off-ramp in this section operates at LOS E. All other analysis locations operate at LOS D during both the AM and PM peak hours, except for the basic mainline section between the Union Avenue off- and on-ramps which operates at LOS C during the AM peak hour.

# Table 1 Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR 58 Eastbound

				AM Peak Ho	ur	PM Peak Hour		
Location	Lanes	Туре	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	LOS	Density <sup>1</sup>	Speed <sup>1</sup>
SR-99 to H St	3	Weave <sup>2</sup>	D	-	-	D	-	-
H St Off-ramp to Chester Ave On-ramp			D	29.0	63.5	D	27.0	64.3
Chester Ave On-ramp	2	Merge	D	34.9	52.5	D	33.8	53.3
Chester Ave to Union Ave	nester Ave to Union Ave 2 Basic		D	34.3	60.3	D	33.7	60.7
Union Ave Off-ramp	2	Diverge	E	38.5	56.2	Е	38.1	56.8
Union Ave Off-ramp to On-ramp	0 2 Basic		С	24.7	64.9	D	27.4	64.2
Union Ave SB On-ramp	2	Merge	D	29.1	55.4	D	31.8	54.3
Union Ave NB On-ramp	2	Merge	D	30.5	55.3	۵	33.5	53.6
Union Ave to Cottonwood Rd	2	Basic	D	28.1	63.9	D	33.2	61.0

#### Notes:

- Density is reported in vehicles per lane per mile, and speed is reported in miles per hour. Both were calculated per Highway Capacity Manual 2000.
- Weave section analysis was performed using the Leisch Method, which does not provide density or speed estimates.

Source: Fehr & Peers, 2010.

For westbound SR 58 (see Table 2), all locations operate at LOS D or better except at the Brundage Lane off-ramp (AM peak hour) and Chester Avenue off-ramp (AM and PM peak hour) which operate at LOS E.

The majority of analysis locations on northbound SR 99 operate at LOS C or better (see Table 3). The following seven locations operate at LOS D.

- White Lane to Ming Avenue (AM peak hour)
- Ming Avenue on-ramp (AM peak hour)



- SR 58 off-ramp (PM peak hour)
- SR 58 on-ramp (AM peak hour)
- SR 58 to California Avenue (AM Peak Hour)
- California Avenue to Rosedale Highway (AM peak hour)
- Rosedale Highway off-ramp (PM peak hour)

In addition, five locations operate at LOS E or F during the AM and PM peak hour:

- White Lane eastbound on-ramp (AM peak hour)
- White Lane westbound on-ramp (AM peak hour)
- SR 58 off-ramp (AM peak hour)
- California Avenue off-ramp (AM peak hour)
- Rosedale Highway off-ramp (AM peak hour)

# Table 2 Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR 58 Westbound

				AM Peak Hour			PM Peak Hour		
Location	Lanes	Туре	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	
Cottonwood Rd to Union Ave	2	Basic	D	30.4	62.8	D	26.9	64.4	
Brundage Ln Off-ramp	2	Diverge	Е	35.7	50.9	D	32.7	51.3	
Brundage Ln Off-ramp to On-ramp	2	Basic	С	24.8	64.9	С	23.6	65.0	
Brundage Ln On-ramp	2	Merge	D	29.4	55.3	D	28.5	55.6	
Union Ave SB On-ramp	2	Merge	D	31.3	54.4	D	31.0	54.5	
Chester Ave Off-ramp	2	Diverge	Е	35.2	57.0	Е	35.0	57.1	
Chester Ave Off-ramp to H St On-ramp	2	Basic	С	24.7	64.9	С	24.8	64.9	
H St On-ramp	2	Merge	D	29.8	55.5	D	31.0	55.0	
H St to SR-99	2	Basic	D	27.9	64.0	D	29.4	63.3	
SR-99 NB Off-ramp	2	Diverge	D	33.6	58.2	D	34.8	58.4	
SR-99 NB Off-ramp to SB Off-ramp	2	Basic	В	17.0	65.0	С	18.6	65.0	
SR-99 SB Off-ramp	2	Diverge	С	22.2	49.9	С	24.1	49.5	

#### Notes:

 Density is reported in vehicles per lane per mile, and speed is reported in miles per hour. Both were calculated per Highway Capacity Manual 2000.

Source: Fehr & Peers, 2010.



Table 3 – Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR 99 Northbound

				AM Peak H	our		PM Peak Hour		
Location	Lanes	Туре	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	
Panama Ln to White Ln	3	Basic	С	21.9	65.0	В	15.1	65.0	
White Ln Off-ramp	3	Diverge	С	27.3	61.2	С	21.0	60.8	
White Ln Off-ramp to On- ramp	3	Basic	С	20.6	65.0	В	13.1	65.0	
White Ln EB On-ramp	3	Merge	E	35.6	53.9	С	25.0	58.1	
White Ln WB On-ramp	3	Merge	E	35.3	54.0	С	23.9	58.6	
White Ln to Ming Ave	3	Basic	D	34.9	59.8	С	21.5	65.0	
Ming Ave Off-ramp	4	Diverge	С	27.6	59.4	С	20.4	59.6	
Ming Ave Off-ramp to On- ramp	4	Basic	С	22.8	65.0	В	14.6	65.0	
Ming Ave On-ramp	4	Merge	D	31.2	57.3	С	24.0	59.5	
SR-58 Off-ramp	4	Diverge	Е	40.6	61.4	D	30.0	62.4	
SR-58 Off-ramp to Wible Rd On-ramp	4	Basic	С	21.0	65.0	В	13.6	65.0	
Wible Rd On-ramp	4	Merge	С	23.3	59.0	В	17.7	60.2	
SR-58 On-ramp	4	Merge	D	31.1	57.4	С	24.8	59.4	
SR-58 to California Ave	4	Basic	۵	28.8	63.6	С	20.9	65.0	
California Ave Off-ramp	4	Diverge	Е	36.7	60.9	С	27.0	62.4	
California Ave Off-ramp to On-ramp	4	Basic	С	23.4	65.0	В	18.0	65.0	
California Ave EB On-ramp	4	Merge	С	25.3	58.5	С	22.2	59.4	
California Ave WB On- ramp	4	Merge	С	24.8	58.5	C	21.4	59.5	
California Ave to Rosedale Hwy	4	Basic	D	26.5	64.5	С	22.1	65.0	
Rosedale Hwy Off-ramp	4	Diverge	Е	38.2	59.5	D	34.3	59.2	
Buck Owens Blvd Off-ramp	4	Diverge	С	26.3	57.7	В	18.9	59.9	
Buck Owens Blvd Off-ramp to On-ramp	4	Basic	В	16.5	65.0	В	13.6	65.0	
Buck Owens Blvd On-ramp	4	Merge	В	18.6	60.0	В	17.8	60.2	
Airport Dr Off-ramp	4	Diverge	С	27.9	59.2	С	23.8	60.3	
Airport Dr to Golden State Ave	3	Basic	В	14.4	65.0	В	14.2	65.0	

#### Notes:

Source: Fehr & Peers, 2010.

Density is reported in vehicles per lane per mile, and speed is reported in miles per hour. Both were calculated per Highway Capacity Manual 2000.



The majority of analysis locations on southbound SR 99 operate at LOS C or better (see Table 4). The following locations operate at LOS D.

- Airport Drive on-ramp (PM peak hour)
- Rosedale Highway off-ramp (PM peak hour)
- Rosedale Highway westbound on-ramp (PM peak hour)
- Rosedale Highway eastbound on-ramp (PM peak hour)
- Rosedale Highway to California Avenue (PM peak hour)
- California Avenue off-ramp (AM peak hour)
- California Avenue on-ramp (PM peak hour)
- California Avenue to SR 58 (PM peak hour)
- SR 58 off-ramp (AM peak hour)
- Ming Avenue to White Lane (PM peak hour)

In addition, the PM peak hour has three locations with LOS E or F conditions. The California Avenue off-ramp and the Ming Avenue off-ramp operate at LOS E due to high mainline and ramp volumes. The SR 58 off-ramp operates at LOS F because both the off-ramp volume and the mainline volume in the right two lanes exceed their capacity. The PM peak hour field observations found slower free-flow speeds at the, California Avenue off-ramp and SR 58 off-ramp. Additionally, traffic was observed to be queued onto the auxiliary lane at the White Lane off-ramp. This latter observation is not reflected in the analysis results since arterial operations on White Lane cause the queues.



# Table 4 – Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR 99 Southbound

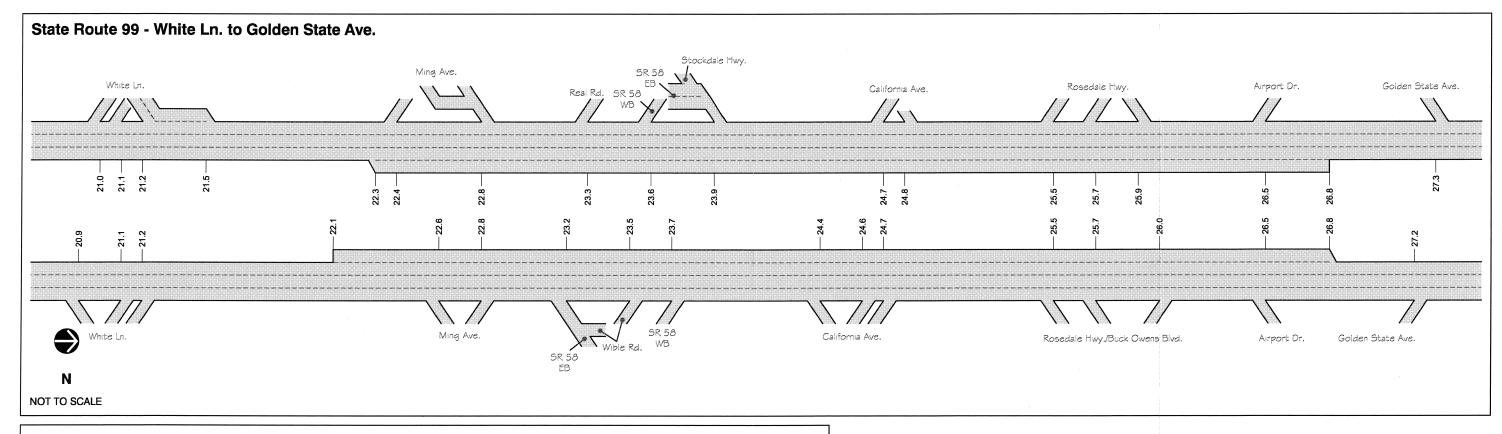
Basic   C   19.8   65.0   C   19.7   65.0   C   Airport Dr On-ramp   4   Merge   C   23.9   59.5   D   29.2   58.1   Airport Dr to Rosedale Hwy   4   Basic   C   19.4   65.0   C   22.6   65.0   C   22.4   65.0   C   19.7   65.0   C   19.7   65.0   C   6										
Golden State Ave to Airport   3   Basic   C   19.8   65.0   C   19.7   65.0					AM Peak H	our		PM Peak Hour		
Dr         3         Basic         C         19.8         65.0         C         19.7         65.0           Airport Dr On-ramp         4         Merge         C         23.9         59.5         D         29.2         58.1           Airport Dr to Rosedale Hwy         4         Basic         C         19.4         65.0         C         22.6         65.0           Rosedale Hwy Off-ramp to On-ramp         4         Basic         B         16.7         65.0         C         19.7         65.0           Rosedale Hwy BB On-ramp         4         Merge         C         21.9         59.5         D         28.9         57.9           Rosedale Hwy to California Ave On-ramp         4         Merge         C         25.9         58.9         D         32.4         56.6           Rosedale Hwy to California Ave Off-ramp         4         Basic         C         25.9         58.9         D         32.4         56.6           California Ave Off-ramp         4         Diverge         D         31.8         61.2         E         37.1         61.1           California Ave On-ramp         4         Merge         C         20.4         59.6         D         29.9	Location	Lanes	Туре	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	
Airport Dr to Rosedale Hwy         4         Basic         C         19.4         65.0         C         22.6         65.0           Rosedale Hwy Off-ramp         4         Diverge         C         25.4         62.6         D         28.5         62.4           Rosedale Hwy Off-ramp to On-ramp         4         Basic         B         16.7         65.0         C         19.7         65.0           Rosedale Hwy BD On-ramp         4         Merge         C         21.9         59.5         D         28.9         57.9           Rosedale Hwy EB On-ramp         4         Merge         C         25.9         58.9         D         32.4         56.6           Rosedale Hwy to California Ave Off-ramp         4         Basic         C         23.4         65.0         D         30.5         62.7           California Ave Off-ramp         4         Diverge         D         31.8         61.2         E         37.1         61.1           California Ave Off-ramp to On-ramp         4         Basic         C         20.4         59.6         D         29.9         57.4           California Ave On-ramp         4         Basic         C         20.0         65.0         D	_	3	Basic	С	19.8	65.0	С	19.7	65.0	
Rosedale Hwy Off-ramp	Airport Dr On-ramp	4	Merge	С	23.9	59.5	D	29.2	58.1	
Rosedale Hwy Off-ramp to On-ramp	Airport Dr to Rosedale Hwy	4	Basic	С	19.4	65.0	С	22.6	65.0	
On-ramp         4         Basic         B         16.7         65.0         C         19.7         65.0           Rosedale Hwy WB Onramp         4         Merge         C         21.9         59.5         D         28.9         57.9           Rosedale Hwy EB On-ramp         4         Merge         C         25.9         58.9         D         32.4         56.6           Rosedale Hwy to California Ave Off-ramp         4         Basic         C         23.4         65.0         D         30.5         62.7           California Ave Off-ramp to On-ramp         4         Basic         C         18.7         65.0         C         25.2         64.8           California Ave On-ramp         4         Merge         C         20.4         59.6         D         29.9         57.4           California Ave On-ramp         4         Merge         C         20.4         59.6         D         29.9         57.4           California Ave to SR-58         4         Basic         C         20.0         65.0         D         29.9         57.4           California Ave to SR-58         4         Basic         B         13.2         65.0         D         29.1         63.3	Rosedale Hwy Off-ramp	4	Diverge	С	25.4	62.6	D	28.5	62.4	
ramp         4         Merge         C         21.9         59.5         D         28.9         57.9           Rosedale Hwy EB On-ramp         4         Merge         C         25.9         58.9         D         32.4         56.6           Rosedale Hwy to California Ave         4         Basic         C         23.4         65.0         D         30.5         62.7           California Ave Off-ramp         4         Diverge         D         31.8         61.2         E         37.1         61.1           California Ave Off-ramp to On-ramp         4         Basic         C         18.7         65.0         C         25.2         64.8           California Ave On-ramp         4         Merge         C         20.4         59.6         D         29.9         57.4           California Ave to SR-58         4         Basic         C         20.0         65.0         D         29.4         63.3           SR-58 Off-ramp         4         Diverge         D         31.0         61.9         F         -         -         -         -         -         -         -         20.1         65.0         C         20.1         65.0         -         20.1		4	Basic	В	16.7	65.0	С	19.7	65.0	
Rosedale Hwy to California Ave   Ave   Basic   C   23.4   65.0   D   30.5   62.7	,	4	Merge	С	21.9	59.5	D	28.9	57.9	
Ave         4         Basic         C         23.4         65.0         D         30.5         62.7           California Ave Off-ramp         4         Diverge         D         31.8         61.2         E         37.1         61.1           California Ave Off-ramp to On-ramp         4         Basic         C         18.7         65.0         C         25.2         64.8           California Ave On-ramp         4         Merge         C         20.4         59.6         D         29.9         57.4           California Ave On-ramp         4         Basic         C         20.0         65.0         D         29.9         57.4           California Ave Oss-58         4         Basic         C         20.0         65.0         D         29.9         57.4           California Ave Oss-58         4         Basic         B         13.0         61.9         F         -         -         -           California Ave Oss-58         4         Basic         B         13.2         65.0         C         20.1         65.3           SR-58 Off-ramp         4         Diverge         C         20.5         59.8         C         27.3         58.2	Rosedale Hwy EB On-ramp	4	Merge	С	25.9	58.9	D	32.4	56.6	
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On-ramp         4         Basic         C         18.7         65.0         C         25.2         64.8           California Ave On-ramp         4         Merge         C         20.4         59.6         D         29.9         57.4           California Ave to SR-58         4         Basic         C         20.0         65.0         D         29.4         63.3           SR-58 Off-ramp         4         Diverge         D         31.0         61.9         F         -         -           SR-58 Off-ramp to Onramp         4         Basic         B         13.2         65.0         C         20.1         65.0           SR-58 On-ramp         4         Merge         C         20.5         59.8         C         27.3         58.2           Real Rd On-ramp         4         Merge         B         18.3         60.1         C         24.6         58.6           Ming Ave Off-ramp to Onramp         4         Basic         B         14.8         65.0         C         19.5         65.0           Ming Ave On-ramp         3         Merge         C         22.0         58.9         D         29.3         57.0           Myite Ln On-ramp to O	California Ave Off-ramp	4	Diverge	D	31.8	61.2	Е	37.1	61.1	
California Ave to SR-58         4         Basic         C         20.0         65.0         D         29.4         63.3           SR-58 Off-ramp         4         Diverge         D         31.0         61.9         F         -         -           SR-58 Off-ramp to Onramp         4         Basic         B         13.2         65.0         C         20.1         65.0           SR-58 On-ramp         4         Merge         C         20.5         59.8         C         27.3         58.2           Real Rd On-ramp         4         Merge         B         18.3         60.1         C         24.6         58.6           Ming Ave Off-ramp         4         Diverge         C         24.7         62.1         E         36.2         60.0           Ming Ave Off-ramp to Onramp         3         Merge         C         22.0         58.9         D         29.3         57.0           Ming Ave On-ramp         3         Basic         C         21.4         65.0         D         30.6         62.6           White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln WB	· _	4	Basic	С	18.7	65.0	С	25.2	64.8	
SR-58 Off-ramp         4         Diverge         D         31.0         61.9         F         -         -           SR-58 Off-ramp to Onramp         4         Basic         B         13.2         65.0         C         20.1         65.0           SR-58 On-ramp         4         Merge         C         20.5         59.8         C         27.3         58.2           Real Rd On-ramp         4         Merge         B         18.3         60.1         C         24.6         58.6           Ming Ave Off-ramp         4         Diverge         C         24.7         62.1         E         36.2         60.0           Ming Ave Off-ramp to Onramp         3         Merge         C         22.0         58.9         D         29.3         57.0           Ming Ave to White Ln         3         Basic         C         21.4         65.0         D         30.6         62.6           White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White Ln EB	California Ave On-ramp	4	Merge	С	20.4	59.6	D	29.9	57.4	
SR-58 Off-ramp to Onramp         4         Basic         B         13.2         65.0         C         20.1         65.0           SR-58 On-ramp         4         Merge         C         20.5         59.8         C         27.3         58.2           Real Rd On-ramp         4         Merge         B         18.3         60.1         C         24.6         58.6           Ming Ave Off-ramp         4         Diverge         C         24.7         62.1         E         36.2         60.0           Ming Ave Off-ramp to Onramp         4         Basic         B         14.8         65.0         C         19.5         65.0           Ming Ave On-ramp         3         Merge         C         22.0         58.9         D         29.3         57.0           Ming Ave to White Ln         3         Basic         C         21.4         65.0         D         30.6         62.6           White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White	California Ave to SR-58	4	Basic	O	20.0	65.0	D	29.4	63.3	
ramp         4         Basic         B         13.2         65.0         C         20.1         65.0           SR-58 On-ramp         4         Merge         C         20.5         59.8         C         27.3         58.2           Real Rd On-ramp         4         Merge         B         18.3         60.1         C         24.6         58.6           Ming Ave Off-ramp         4         Diverge         C         24.7         62.1         E         36.2         60.0           Ming Ave Off-ramp to On-ramp         3         Merge         C         22.0         58.9         D         29.3         57.0           Ming Ave to White Ln         3         Basic         C         21.4         65.0         D         30.6         62.6           White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln On-ramp to Off-ramp         3         Basic         B         13.5         65.0         B         17.7         65.0           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White Ln EB O	SR-58 Off-ramp	4	Diverge	۵	31.0	61.9	F	-	-	
Real Rd On-ramp         4         Merge         B         18.3         60.1         C         24.6         58.6           Ming Ave Off-ramp         4         Diverge         C         24.7         62.1         E         36.2         60.0           Ming Ave Off-ramp to On-ramp         4         Basic         B         14.8         65.0         C         19.5         65.0           Ming Ave On-ramp         3         Merge         C         22.0         58.9         D         29.3         57.0           Ming Ave to White Ln         3         Basic         C         21.4         65.0         D         30.6         62.6           White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln On-ramp to Off-ramp         3         Basic         B         13.5         65.0         B         17.7         65.0           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White Ln EB On-ramp         3         Merge         B         16.2         59.8         C         20.0         59.2	·	4	Basic	В	13.2	65.0	С	20.1	65.0	
Ming Ave Off-ramp         4         Diverge         C         24.7         62.1         E         36.2         60.0           Ming Ave Off-ramp to Onramp         4         Basic         B         14.8         65.0         C         19.5         65.0           Ming Ave On-ramp         3         Merge         C         22.0         58.9         D         29.3         57.0           Ming Ave to White Ln         3         Basic         C         21.4         65.0         D         30.6         62.6           White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln On-ramp to Off-ramp         3         Basic         B         13.5         65.0         B         17.7         65.0           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White Ln EB On-ramp         3         Merge         B         16.2         59.8         C         20.0         59.2	SR-58 On-ramp	4	Merge	C	20.5	59.8	С	27.3	58.2	
Ming Ave Off-ramp to Onramp         4         Basic         B         14.8         65.0         C         19.5         65.0           Ming Ave On-ramp         3         Merge         C         22.0         58.9         D         29.3         57.0           Ming Ave to White Ln         3         Basic         C         21.4         65.0         D         30.6         62.6           White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln On-ramp to Off-ramp         3         Basic         B         13.5         65.0         B         17.7         65.0           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White Ln EB On-ramp         3         Merge         B         16.2         59.8         C         20.0         59.2	Real Rd On-ramp	4	Merge	В	18.3	60.1	С	24.6	58.6	
ramp       4       Basic       B       14.8       65.0       C       19.5       65.0         Ming Ave On-ramp       3       Merge       C       22.0       58.9       D       29.3       57.0         Ming Ave to White Ln       3       Basic       C       21.4       65.0       D       30.6       62.6         White Ln Off-ramp       3       Diverge       B       15.1       59.1       C       24.7       57.3         White Ln On-ramp to Off-ramp       3       Basic       B       13.5       65.0       B       17.7       65.0         White Ln WB On-ramp       3       Merge       B       16.1       59.6       C       20.1       58.9         White Ln EB On-ramp       3       Merge       B       16.2       59.8       C       20.0       59.2	Ming Ave Off-ramp	4	Diverge	С	24.7	62.1	Е	36.2	60.0	
Ming Ave to White Ln         3         Basic         C         21.4         65.0         D         30.6         62.6           White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln On-ramp to Off-ramp         3         Basic         B         13.5         65.0         B         17.7         65.0           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White Ln EB On-ramp         3         Merge         B         16.2         59.8         C         20.0         59.2	•	4	Basic	В	14.8	65.0	O	19.5	65.0	
White Ln Off-ramp         3         Diverge         B         15.1         59.1         C         24.7         57.3           White Ln On-ramp to Off-ramp         3         Basic         B         13.5         65.0         B         17.7         65.0           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White Ln EB On-ramp         3         Merge         B         16.2         59.8         C         20.0         59.2	Ming Ave On-ramp	3	Merge	С	22.0	58.9	D	29.3	57.0	
White Ln On-ramp to Off-ramp         3         Basic         B         13.5         65.0         B         17.7         65.0           White Ln WB On-ramp         3         Merge         B         16.1         59.6         C         20.1         58.9           White Ln EB On-ramp         3         Merge         B         16.2         59.8         C         20.0         59.2	Ming Ave to White Ln	3	Basic	С	21.4	65.0	D	30.6	62.6	
ramp     3     Basic     B     13.5     65.0     B     17.7     65.0       White Ln WB On-ramp     3     Merge     B     16.1     59.6     C     20.1     58.9       White Ln EB On-ramp     3     Merge     B     16.2     59.8     C     20.0     59.2	White Ln Off-ramp	3	Diverge	В	15.1	59.1	С	24.7	57.3	
White Ln EB On-ramp         3         Merge         B         16.2         59.8         C         20.0         59.2		3	Basic	В	13.5	65.0	В	17.7	65.0	
	White Ln WB On-ramp	3	Merge	В	16.1	59.6	С	20.1	58.9	
White Ln to Panama Ln 3 Basic B 14.7 65.0 C 19.1 65.0	White Ln EB On-ramp	3	Merge	В	16.2	59.8	С	20.0	59.2	
	White Ln to Panama Ln	3	Basic	В	14.7	65.0	С	19.1	65.0	

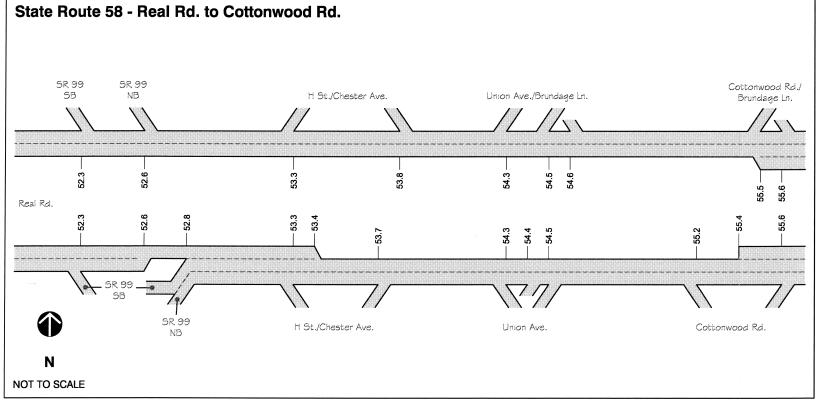
#### Notes:

Source: Fehr & Peers, 2010.

Density is reported in vehicles per lane per mile, and speed is reported in miles per hour. Both were calculated per Highway Capacity Manual 2000.

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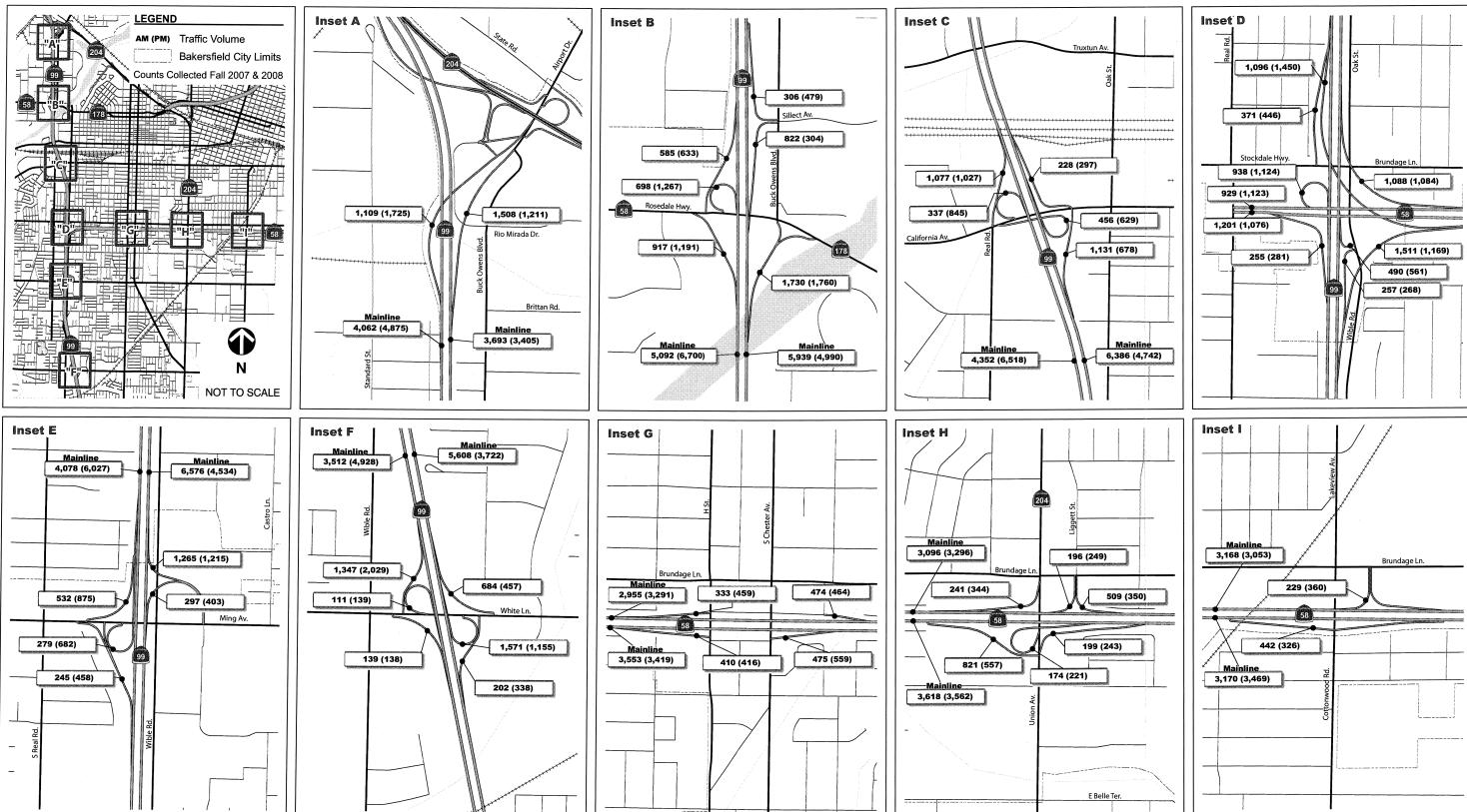
LEGEND

6.0 Post-mile

FEHR & PEERS TRANSPORTATION CONSULTANTS

LANE CONFIGURATIONS - EXISTING CONDITIONS

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## **ATTACHMENT 1 – RESPONSES TO COMMENTS**

#### THOMAS ROADS IMPROVEMENT PROGRAM

# ENVIRONMENTAL PROCESS COMMENT/RESOLUTION FORM



RE	PORT:	Existing Conditions Freeway and Intersection Analysis		PROJECT: Centennial Corridor Project				
SU	вмітт	AL: 🗌 Screencheck 🗌 Preliminary 🗵 Draft 🗎 Final 🗎 Other:		CONSULTANT'S TRAFFIC MANAGER: Fred Choa, Fehr & Peers				
RE	VIEW 1	「YPE: ☐ City ☐ County ☒ Caltrans ☐ HNTB ☐ Other: Parsons		PHONE: (916)773-1900 EMAIL: f.choa@fehrandpeers.com				
SU	вмітт	AL DATE: December 3, 2010 DUE DATE:	-	SCHEDULED JRT MEETING DATE:				
RE	VIEWE	R: Koko Widyatmoko, Caltrans		DISCIPLINE: Traffic Engineering				
No.	Page / Ref.	Reviewer's Comment	InitialDisp	o. Consultants Response	Final LS or Disp. NDC			
1	1	The wording on the first sentence of second paragraph on the first page, under Analysis Methodology is improper, since not all the volume numbers are field collected data. The methodology on how volumes on other location are developed should be explained as well.	C	For locations where data was not field collected, a description will be included that explains how the volume numbers were developed.				
2	2	We suggest deleting the word "due to problems with the counting equipment" on first paragraph on second page, under Existing Traffic Volumes. Instead, list the actual date that the data was collected on that particular location.	С	This sentence will be removed and will be replaced with the actual date when the data was collected for each location.				
3	3	All procedures and explanation on how the data/number acquired or developed should be mentioned under Analysis Methodology tab instead under Existing Traffic Volumes tab.	С	The discussion of the procedures and explanations on how the data was acquired or developed will be moved from the Existing Traffic Volumes section to the Analysis Methodology section.				
4	3	Peak Hour Factor should be acquired based on calculation and verified with field observation.	С	The discussion of the Peak Hour Factor was updated to discuss how they were calculated and adjusted when necessary.				
FIN	AL DIS	SPOSITION CONCURRENCE: Signature indicates acknowledgement of concu	rrence to	final dispositions ONLY and does not signify final approval o	f report.			
	CONSULTANT'S ENVIRO. MANAGER SIGN & DATE:  SIGN & DATE:							

TRIP FINAL DISPOSITION CODES: D = Done or Approved N/C = No Change Required

LS = Revise in Later Submittal NDC = Revise Immediately

CONSULTANTS INITIAL DISPOSITION CODES: C = Will Comply D = Discuss N = No Change A = Agency Action Required

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## **ATTACHMENT 2 – HCM CALCULATIONS**

HCM 2000 Basic Freeway Segments Capacity Analysis

Jurisdiction Bakersfield, CA
Analysis Year Existing (2008)
Analyst BP

Agency or Company TRIP
Date 3.3.10
Project Description Centennial Corridor Study

Genera	l Information			Flow Rate (	Calculation	n									Speed Calcui	lation	Results	
	Freeway/		Analysis	Volume				Truck/						Flow Rate	Measured	S	Density, D	Level of
	Direction	From/To	Time Period	(vph)	PHF	Lanes	Terrain	Bus %	RV %	E <sub>T</sub>	ER	$f_{HV}$	$f_{P}$	v <sub>p</sub> (pcphpl)	FFS (mph)	(mph)	(pcplpm)	Service
B-2		H St Off to Chester Ave On	AM	3,143	0.90	2	Level	11%	0%	1.5	1.2	0.948	1.00	1,842	65.0	63.5	29.0	D
B-3		Chester Ave to Union Ave	AM	3,618	0.92	2	Level	10%	0%	1.5	1.2	0.952	1.00	2,065	65.0	60.3	34.3	ם
B-4		Union Ave Off to On	AM	2,797	0.92	2	Level	11%	0%	1.5	1.2	0.948	1.00	1,604	65.0	64.9	24.7	С
B-5		Union Ave to Cottonwood Rd	AM	3,170	0.93	2	Level	11%	0%	1.5	1.2	0.948	1.00	1,798	65.0	63.9	28.1	ם
B-6		Cottonwood Rd to Union Ave	AM	3,168	88.0	2	Level	12%	0%	1.5	1.2	0.943	1.00	1,908	65.0	62.8	30.4	D
B-7		Brundage Ln Off to On	AM	2,659	0.88	2	Level	13%	0%	1.5	1.2	0.939	1.00	1,609	65.0	64.9	24.8	С
B-8	SR-58 WB	Chester Ave Off to H St On	AM	2,622	0.88	2	Level	15%	0%	1.5	1.2	0.930	1.00	1,602	65.0	64.9	24.7	С
B-9		H St to SR-99	AM	2,955	0.88	2	Level	13%	0%	1.5	1.2	0.939	1.00	1,788	65.0	64.0	27.9	Ď
B-10		SR-99 NB Off to SB Off	AM	1,867	0.88	2	Level	8%	0%	1.5	1.2	0.962	1.00	1,103	65.0	65.0	17.0	В
B-11	SR-99 NB	Panama Ln to White Ln	AM	3,555	0.88	3	Level	11%	0%	1.5	1.2	0.948	1.00	1,421	65.0	65.0	21.9	С
B-12	SR-99 NB	White Ln Off to On	AM	3,353	0.88	3	Level	11%	0%	1.5	1.2	0.948	1.00	1,340	65.0	65.0	20.6	Ċ
B-13	SR-99 NB	White Ln to Ming Ave	AM	5,608	0.94	3	Level	10%	0%	1.5	1.2	0.952	1.00	2.088	65.0	59.8	34.9	D
B-14	SR-99 NB	Ming Ave Off to On	AM	5,311	0.94	4	Level	10%	0%	1.5	1.2	0.952	1.00	1,483	65.0	65.0	22.8	Ċ
B-15	SR-99 NB	SR-58 Off to Wible On	AM	4,808	0.92	4	Level	9%	0%	1.5	1.2	0.957	1.00	1,365	65.0	65.0	21.0	Ċ
B-16	SR-99 NB	SR-58 to California Ave	AM	6,386	0.92	4	Level	11%	0%	1.5	1.2	0.948	1.00	1.831	65.0	63.6	28.8	Ď
B-17	SR-99 NB	California Ave Off to On	AM	5,255	0.92	4	Level	13%	0%	1.5	1.2	0.939	1.00	1,521	65.0	65.0	23.4	Č
B-18	SR-99 NB	California Ave to Rosedale Hwy	AM	5,939	0.92	4	Level	12%	0%	1.5	1.2	0.943	1.00	1,711	65.0	64.5	26.5	D
B-19	SR-99 NB	Buck Owens Blvd Off to On	AM	3,387	0.86	4	Level	18%	0%	1.5	1.2	0.917	1.00	1,073	65.0	65.0	16.5	B
B-20	SR-99 NB	Airport Dr Off to Golden State Blvd On	AM	2,185	0.88	3	Level	26%	0%	1.5	1.2	0.885	1.00	935	65.0	65.0	14.4	В
B-21	SR-99 SB	Golden State Ave Off to Airport Dr On	AM	2,953	0.83	3	Level	17%	0%	1.5	1.2	0.922	1.00	1,287	65.0	65.0	19.8	Ċ
B-22	SR-99 SB	Airport Dr to Rosedale Hwy	AM	4,062	0.86	4	Level	14%	0%	1.5	1.2	0.935	1.00	1,263	65.0	65.0	19.4	Č
B-23	SR-99 SB	Rosedale Hwy Off to On	AM	3,477	0.86	4	Level	15%	0%	1.5	1.2	0.930	1.00	1,087	65.0	65.0	16.7	В
B-24	SR-99 SB	Rosedale Hwy to California Ave	AM	5,092	0.89	4	Level	13%	0%	1.5	1.2	0.939	1.00	1,523	65.0	65.0	23.4	Ċ
B-25	SR-99 SB	California Ave Off to On	AM	4,015	0.89	4	Level	15%	0%	1.5	1.2	0.930	1.00	1,212	65.0	65.0	18.7	Ċ
B-26	SR-99 SB	California Ave to SR-58	AM	4,352	0.90	4	Level	15%	0%	1.5	1.2	0.930	1.00	1,300	65.0	65.0	20.0	č
B-27		SR-58 Off to On	AM	2,885	0.90	4	Level	14%	0%	1.5	1.2	0.935	1.00	857	65.0	65.0	13.2	B
B-28	SR-99 SB	Ming Ave Off to On	AM	3,267	0.91	4	Level	15%	0%	1.5	1.2	0.930	1.00	965	65.0	65.0	14.8	В
B-29	SR-99 SB	Ming Ave to White Ln	AM	3,512	0.90	3	Level	14%	0%	1.5	1.2	0.935	1.00	1,392	65.0	65.0	21.4	č
B-30	SR-99 SB	White Ln Off to On	AM	2,165	0.90	3	Level	19%	0%	1.5	1.2	0.913	1.00	878	65.0	65.0	13.5	B.
B-31	SR-99 SB	White Ln to Panama Ln	AM	2,415	0.92	3	Level	18%	0%	1.5	1.2	0.917	1.00	954	65.0	65.0	14.7	В

HCM 2000 Merge Ramp Junctions Capacity Analysis Jurisdiction Bakersfield, CA
Analysis Year Existing (2008)
Analyst BP
Analysis BP
Analysis BP
Agency or Company TRIP
Date 3.3.10
Project Description Centennial Corridor Study

General Information Freeway Data Freeway Volume Adjustment

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	Freeway/		Analysis		S <sub>FF</sub>	٧			Truck/						Flow Rate
	Direction	On-ramp	Time Period	Lanes	(mph)	(vph)	PHF	Terrain	Bus %	RV %	Ε <sub>T</sub>	$E_R$	$f_{HV}$	$f_p$	v <sub>p</sub> (pcph)
M-1		Chester Ave On	AM	2	65.0	3,143	0.90	Level	11%	0%	1.5	1.20	0.948	1.00	3,684
M-2	SR-58 EB	Union Ave SB On	AM	2	65.0	2,797	0.92	Level	11%	0%	1.5	1.20	0.948	1.00	3,207
M-3	SR-58 EB	Union Ave NB On	AM	2	65.0	2,971	0.92	Level	11%	0%	1.5	1.20	0.948	1.00	3,407
M-4	SR-58 WB	Brundage Ln On	AM	2	65.0	2,659	0.88	Level	13%	0%	1.5	1,20	0.939	1.00	3,218
M-5	SR-58 WB	Union Ave SB On	AM	2	65.0	2,855	0.88	Level	13%	0%	1.5	1.20	0.939	1.00	3,455
M-6	SR-58 WB		AM	2	65.0	2,622	0.88	Level	15%	0%	1.5	1.20	0.930	1.00	3,203
M-7	SR-99 NB	White Ln EB On	АМ	3	65.0	3,353	0.88	Level	11%	0%	1.5	1.20	0.948	1.00	4,020
M-8	SR-99 NB	White Ln WB On	AM	3	65.0	4,924	0.88	Level	10%	0%	1.5	1.20	0.952	1.00	5,875
M-9	SR-99 NB	Ming Ave On	AM	4	65.0	5,311	0.94	Level	10%	0%	1.5	1.20	0.952	1.00	5,933
M-10	SR-99 NB	Wible On	AM	4	65.0	4,808	0.92	Level	9%	0%	1.5	1.20	0.957	1.00	5,461
M-11	SR-99 NB	SR-58 On	AM	4	65.0	5,298	0.92	Level	9%	0%	1.5	1.20	0.957	1.00	6,018
M-12	SR-99 NB	California Ave EB On	AM	4	65.0	5,255	0.92	Level	13%	0%	1.5	1.20	0.939	1.00	6,083
M-13	SR-99 NB	California Ave WB On	AM	4	65.0	5,711	0.92	Level	13%	0%	1.5	1.20	0.939	1.00	6,611
M-14	SR-99 NB	Buck Owens Blvd On	AM	4	65.0	3,387	0.86	Level	18%	0%	1.5	1.20	0.917	1.00	4,293
M-15	SR-99 SB	Airport Dr On	AM	4	65.0	2,953	0.83	Level	17%	0%	1.5	1.20	0.922	1.00	3,860
M-16	SR-99 SB	Rosedale Hwy WB On	AM	4	65.0	3,477	0.86	Level	15%	0%	1.5	1.20	0.930	1.00	4,346
M-17	SR-99 SB	Rosedale Hwy EB On	AM	4	65.0	4,175	0.86	Level	14%	0%	1.5	1.20	0.935	1.00	5,194
M-18	SR-99 SB	California Ave On	AM	4	65.0	4,015	0.89	Level	15%	0%	1.5	1.20	0.930	1.00	4,850
M-19	SR-99 SB	SR-58 On	AM	4	65.0	2,885	0.90	Level	14%	0%	1.5	1.20	0.935	1.00	3,430
M-20	SR-99 SB	Real Rd On	AM	4	65.0	3,823	0.90	Level	13%	0%	1.5	1.20	0.939	1.00	4,524
M-21	SR-99 SB	Ming Ave On	AM	3	65.0	3,267	0.91	Level	15%	0%	1.5	1.20	0.930	1.00	3,859
M-22	SR-99 SB	White Ln WB On	AM	3	65.0	2,165	0.90	Level	19%	0%	1.5	1.20	0.913	1.00	2,634
M-23	SR-99 SB	White Ln EB On	AM	3	65.0	2,276	0.90	Level	19%	0%	1.5		0.913	1.00	2,769

HCM 2000 Merge Ramp Junctions Capacity Analysis

Gene	al Informatio	n	On-Ran	np Data						On-Ran	np Volume	Adjustment						
	Freeway/				S <sub>FR</sub>	V <sub>R</sub>	Acc	cel Lane	(ft)			Truck/			-			Flow Rate
	Direction	On-ramp	Туре	Lanes	(mph)	(vph)	L <sub>A1</sub>	$L_{A2}$	L <sub>Aeff</sub>	PHF	Terrain	Bus %	RV %	E <sub>T</sub>	ER	$f_{HV}$	f₽	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	Right	1	45.0	475	540		540	0.88	Level	4%	0%	1.5	1.2	0.980	1.00	551
M-2	SR-58 EB	Union Ave SB On	Right	1	25.0	174	480		480	0.81	Level	9%	0%	1.5	1.2	0.957	1.00	224
M-3	SR-58 EB	Union Ave NB On	Right	1	45.0	199	540		540	0.86	Level	13%	0%	1.5	1.2	0.939	1.00	246
M-4		U	Right	1	25.0	196	480		480	0.82	Level	12%	0%	1.5	1.2	0.943	1.00	253
M-5		Union Ave SB On	Right	1	25.0	241	540		540	0.84	Level	10%	0%	1.5	1.2	0.952	1.00	301
M-6	SR-58 WB	H St On	Right	1	45.0	333	540		540	0.90	Level	4%	0%	1.5	1.2	0.980	1.00	377
M-7	SR-99 NB	White Ln EB On	Right	1	25.0	1,571	360		360	0.86	Level	8%	0%	1.5	1.2	0.962	1.00	1,900
M-8	SR-99 NB	White Ln WB On	Right	1	45.0	684	530		530	0.86	Level	6%	0%	1.5	1.2	0.971	1.00	819
M-9	SR-99 NB	Ming Ave On	Right	1	45.0	1,265	560		560	0.88	Level	3%	0%	1.5	1.2	0.985	1.00	1,459
M-10	SR-99 NB	Wible On	Right	1	25.0	490	550		550	0.86	Level	4%	0%	1.5	1.2	0.980	1.00	581
M-11	SR-99 NB	SR-58 On	Right	1	55.0	1,088	560		560	0.86	Level	23%	0%	1.5	1.2	0.897	1.00	1,411
M-12	SR-99 NB	California Ave EB On	Right	1	25.0	456	500		500	0.86	Level	5%	0%	1.5	1.2	0.976	1.00	543
M-13	SR-99 NB	California Ave WB On	Right	1	45.0	228	540		540	0.84	Level	7%	0%	1.5	1.2	0.966	1.00	281
M-14	SR-99 NB	Buck Owens Blvd On	Right	1	25.0	306	500		500	0.84	Level	13%	0%	1.5	1.2	0.939	1.00	388
M-15	SR-99 SB	Airport Dr On	Right	1	45.0	1.109	500		500	0.88	Level	5%	0%	1.5	1.2	0.939	1.00	1,292
M-16	SR-99 SB	Rosedale Hwy WB On	Right	1	25.0	698	540		540	0.86	Level	10%	0%	1.5	1.2	0.952	1.00	852
M-17	SR-99 SB	Rosedale Hwy EB On	Right	1	45.0	917	630		630	0.86	Level	8%	0%	1.5	1.2	0.962	1.00	
M-18	SR-99 SB	California Ave On	Right	1	25.0	337	490		490	0.88	Level	3%	0%	1.5	1.2	0.985		1,109
M-19	SR-99 SB	SR-58 On	Right	1	25.0	938	610		610	0.88	Level	9%	0%	1.5	1.2	0.957	1.00	389
M-20	SR-99 SB	Real Rd On	Right	1	45.0	255	540		540	0.89	Level	2%	0%	1.5			1.00	1,114
M-21	SR-99 SB	Ming Ave On	Right	1	45.0	245	550		550	0.88	Level	4%	0%		1.2	0.990	1.00	289
M-22	SR-99 SB	White Ln WB On	Right	1	25.0	111	390		390	0.87	Level	9%	0% 0%	1.5	1.2	0.980	1.00	284
M-23	SR-99 SB	White Ln EB On	Right	1	45.0	139	520		520	0.87		Section Course Transce		1.5	1.2	0.957	1.00	133
			i i ligiti		-70.0	103	320		520	1 0.07	Level	7%	0%	1.5	1.2	0.966	1.00	165

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HCM 2000 Merge Ramp Junctions Capacity Analysis

General Information Adjacent Upstream Ramp Data

	Freeway/				Volume			Truck/						Flow Rate
	Direction	On-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	E <sub>T</sub>	$E_R$	$f_{HV}$	$f_P$	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	No											
M-2	SR-58 EB	Union Ave SB On	No											
M-3	SR-58 EB	Union Ave NB On	No											
M-4	SR-58 WB	Brundage Ln On	No											
M-5	SR-58 WB	Union Ave SB On	No											
M-6	SR-58 WB	H St On	No											
M-7	SR-99 NB	White Ln EB On	Off	1,250	202	0.87	Level	8%	0%	1.5	1.2	0.962	1.00	241
M-8	SR-99 NB	White Ln WB On	On	680	1,571	0.86	Level	8%	0%	1,5	1.2	0.962	1.00	1,900
M-9	SR-99 NB	Ming Ave On	No											.,
M-10	SR-99 NB	Wible On	No											
M-11	SR-99 NB	SR-58 On	No											
M-12	SR-99 NB	California Ave EB On	No											
M-13	SR-99 NB	California Ave WB On	No											
M-14	SR-99 NB	Buck Owens Blvd On	No											
M-15	SR-99 SB	Airport Dr On	No											
M-16	SR-99 SB	Rosedale Hwy WB On	No											
M-17	SR-99 SB	Rosedale Hwy EB On	No											
M-18	SR-99 SB	California Ave On	No											
M-19	SR-99 SB	SR-58 On	No											
M-20	SR-99 SB	Real Rd On	No											
M-21	SR-99 SB	Ming Ave On	Off	2,870	811	0.88	Level	3%	0%	1.5	1.2	0.985	1.00	935
M-22	SR-99 SB	White Ln WB On	Off	1,520	1,347	0.86	Level	5%	0%	1.5	1.2	0.976	1.00	1,605
M-23	SR-99 SB	White Ln EB On	On	600	111	0.87	Level	9%	0%	1.5	1.2	0.957	1.00	133

#### HCM 2000 Merge Ramp Junctions Capacity Analysis

Gener	al Informatio	n	Adjacent	Downstream	n Ramp Da	ata									v 12 Est	imation					
1	Freeway/				Volume			Truck/						Flow Rate	L	EQ	Per	, Equation	ns		V <sub>12</sub>
	Direction	On-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Eτ	$E_R$	$f_{\text{HV}}$	$f_P$	v <sub>p</sub> (pcph)	25-2	25-3	1	2	3	$P_{FM}$	(pcph)
M-1	SR-58 EB		No														0.593			1.000	3,684
M-2	SR-58 EB	Union Ave SB On	No														0.591			1.000	3,207
M-3			No														0.593			1.000	3,407
M-4	SR-58 WB	Brundage Ln On	No														0.591			1.000	3,218
M-5	SR-58 WB	Union Ave SB On	No														0.593			1.000	3,455
M-6	SR-58 WB	H St On	No														0.593			1.000	3,203
M-7	SR-99 NB	White Ln EB On	On	680	684	0.86	Level	6%	0%	1.5	1.2	0.971	1.00	819	332	5,531	0.588	0.724		0.588	2,362
M-8	SR-99 NB	White Ln WB On	No												1,619	0,00.	0.592	0., _ +		0.592	3,480
M-9	SR-99 NB	Ming Ave On	No												1,010		0.593			0.174	1,033
M-10	SR-99 NB	Wible On	No														0.593			0.390	2,132
M-11	SR-99 NB	SR-58 On	No														0.593			0.155	933
M-12	SR-99 NB	California Ave EB On	No														0.592			0.373	2,268
M-13	SR-99 NB	California Ave WB On	No														0.593			0.316	2,200
M-14	SR-99 NB	Buck Owens Blvd On	No														0.592			0.392	1,684
M-15	SR-99 SB	Airport Dr On	No														0.592			0.180	696
M-16	SR-99 SB	Rosedale Hwy WB On	No														0.593			0.352	1,530
M-17	SR-99 SB	Rosedale Hwy EB On	No														0.595			0.235	1,222
M-18	SR-99 SB	California Ave On	No														0.591			0.388	1,880
M-19	SR-99 SB	SR-58 On	No														0.595			0.351	1,203
M-20	SR-99 SB	Real Rd On	No														0.593			0.315	1,427
M-21	SR-99 SB	Ming Ave On	No												1,082		0.593	0.850		0.593	2,288
M-22	SR-99 SB	White Ln WB On	On	600	139	0.87	Level	7%	0%	1.5	1.2	0.966	1.00	165	-330	1,093	0.588	0.784		0.588	1,550
M-23	SR-99 SB	White Ln EB On	No												810	1,000	0.592	5.707		0.592	1,639

HCM 2000 Merge Ramp Junctions Capacity Analysis

General Information Capacity Checks Freeway/  $V_{Fi}$ Max v<sub>Fi</sub>  $\mathbf{v}_{\text{FO}}$ Max v<sub>FO</sub> V<sub>3</sub>, V<sub>av34</sub> V<sub>3</sub>, V<sub>av34</sub> V<sub>3</sub>, V<sub>av34</sub> Max v<sub>R12a</sub> V<sub>12a</sub>  $V_{R12a}$ Direction On-ramp (pcph) (pcph) LOS F? (pcph) LOS F? (pcph) (ladgaq) > 2,700? >1.5\*v<sub>12</sub>/2? (pcph) (pcph) (pcph) LOS F? SR-58 EB Chester Ave On 3,684 4,800 No 4,235 4,800 No No No 3,684 4,235 4,600 No SR-58 EB Union Ave SB On 3,207 4,800 No 3,432 4,800 No 0 No No 3,207 3,432 4,600 No M-3 SR-58 EB Union Ave NB On 3,407 4,800 No 3,653 4,800 No 0 No No 3,407 3.653 4,600 No M-4 SR-58 WB Brundage Ln On 3,218 4,800 No 3,471 4,800 No 0 No No 3,218 3.471 4,600 No M-5 SR-58 WB Union Ave SB On 3,455 4,800 No 3,756 4,800 No 0 No No 3,455 3,756 4,600 No M-6 SR-58 WB H St On 3,203 4,800 No 3,580 4.800 Nο 0 No No 3,203 3,580 4,600 No SR-99 NB White Ln EB On 4,020 7,200 No 5.920 7,200 No 1,658 No No 2,362 4,262 4,600 SR-99 NB White Ln WB On Nο M-8 5,875 7,200 No 6,694 7,200 No 2,395 No No 3,480 4,299 4,600 No SR-99 NB Ming Ave On 5,933 9,600 No 7,392 9,600 Nο 2,450 No Yes 2,373 3,832 4,600 No M-10 SR-99 NB Wible On 5,461 9.600 No 6,042 9,600 No 1,664 Yes No 2,185 2,766 4,600 No M-11 SR-99 NB SR-58 On 6.018 9.600 No 7,428 9,600 No 2,543 No Yes 2,407 3,818 4.600 No M-12 SR-99 NB California Ave EB On 6.083 9.600 No 6,627 9,600 No 1,908 No Yes 2,433 2,977 4.600 M-13 No SR-99 NB California Ave WB On 6.611 9,600 No 6,892 9,600 No 2,259 No Yes 2,644 2,925 4,600 No M-14 SR-99 NB Buck Owens Blvd On 4,293 9,600 No 4,681 9,600 No 1,304 No Yes 1,717 2,105 4,600 No M-15 SR-99 SB Airport Dr On 3,860 9.600 No 5,152 9,600 No 1,582 Νo Yes 1,544 2.836 4,600 No SR-99 SB Rosedale Hwy WB On M-16 4,346 9,600 No 5,198 9,600 No 1,408 No Yes 1,739 2,591 4,600 No M-17 SR-99 SB Rosedale Hwy EB On 5,194 9,600 No 6,303 9,600 No 1,986 No Yes 2,078 3,187 4,600 No M-18 SR-99 SB California Ave On 4,850 9.600 No 5,238 9,600 No 1.485 No Yes 1,940 2,329 4,600 No M-19 SR-99 SB SR-58 On 3,430 9,600 No 4,544 9,600 No 1,114 No Yes 1,372 2,486 4,600 No M-20 SR-99 SB Real Rd On 4,524 9,600 No 4,813 9,600 No 1,548 No Yes 1,810 2,099 4,600 No SR-99 SB Ming Ave On 3,859 7,200 No 4.143 7,200 No 1,571 No Nο 2,288 2,572 4,600 No M-22 SR-99 SB White Ln WB On 2,634 7,200 No 2,767 7,200 No 1,084 No No 1,550 1,683 4,600 No SR-99 SB White Ln EB On 2,769 7,200 No 2,934 7,200 No 1,130 No No 1,639 1,805 4,600 No

HCM 2000 Merge Ramp Junctions Capacity Analysis

Gener	al Informatio	n				Results		Speed Es	timation		
	Freeway/		<b>v</b> <sub>R</sub>	Max v <sub>R</sub>		Density, D	Level of	Int. Var.	Inf. Area	Out Lns.	All vehs.
	Direction	On-ramp	(pcph)	(pcph)	LOS F?	(pcplpm)	Service	Ms	S <sub>R</sub> (mph)	S <sub>O</sub> (mph)	S (mph)
M-1	SR-58 EB	Chester Ave On	551	2,100	No	34.9	D	0.542	52.5	0.0	52.5
M-2	SR-58 EB	Union Ave SB On	224	1,900	No	29.1	D	0.418	55.4	0.0	55.4
M-3	SR-58 EB	Union Ave NB On	246	2,100	No	30.5	D	0.423	55.3	0.0	55.3
M-4	SR-58 WB	Brundage Ln On	253	1,900	No	29.4	D	0.423	55.3	0.0	55.3
M-5	SR-58 WB		301	1,900	No	31.3	D	0.461	54.4	0.0	54.4
M-6			377	2,100	No	29.8	D	0.412	55.5	0.0	55.5
M-7	SR-99 NB	White Ln EB On	1,900	1,900	No	35.6	E	0.580	51.7	60.8	53.9
M-8	SR-99 NB	White Ln WB On	819	2,100	No	35.3	E	0.561	52.1	57.9	54.0
M-9	SR-99 NB	Ming Ave On	1,459	2,100	No	31.2	D	0.451	54.6	60.4	57.3
M-10	SR-99 NB	Wible On	581	1,900	No	23.3	С	0.355	56.8	60.9	59.0
M-11	SR-99 NB	SR-58 On	1,411	2,200	No	31.1	D	0.437	55.0	60.3	57.4
M-12	SR-99 NB	California Ave EB On	543	1,900	No	25.3	С	0.373	56.4	60.2	58.5
M-13	SR-99 NB	California Ave WB On	281	2,100	No	24.8	C	0.345	57.1	59.7	58.5
M-14	SR-99 NB	Buck Owens Blvd On	388	1,900	No	18.6	B	0.328	57.5	62.2	60.0
M-15	SR-99 SB	Airport Dr On	1,292	2,100	No	23.9	С	0.342	57.1	62.6	59.5
M-16	SR-99 SB	Rosedale Hwy WB On	852	1,900	No	21.9	С	0.346	57.0	62.1	59.5
M-17	SR-99 SB	Rosedale Hwy EB On	1,109	2,100	No	25.9	С	0.359	56.7	61.2	58.9
M-18	SR-99 SB	California Ave On	389	1,900	No	20.4	C	0.337	57.3	61.6	59.6
M-19	SR-99 SB	SR-58 On	1,114	1,900	No	20.5	Č	0.337	57.2	63.1	59.8
M-20	SR-99 SB	Real Rd On	289	2,100	No	18.3	B	0.304	58.0	61.9	60.1
M-21	SR-99 SB	Ming Ave On	284	2,100	No	22.0	C	0.323	57.6	61.1	58.9
M-22	SR-99 SB	White Ln WB On	133	1,900	No	16.1	В	0.322	57.6	62.9	59.6
M-23	SR-99 SB	White Ln EB On	165	2,100	No	16.2	В	0.298	58.1	62.7	59.8

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Jurisdiction Bakersfield, CA

Agency or Company TRIP

Analysis Year Existing (2008)

Analyst BP

Date 3.3.10

Project Description Centennial Corridor Study

General Information	General	Information
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Gener	al Informatio	n		Freeway	Data		Freeway	Volume Adji	ustment						
	Freeway/		Analysis		S <sub>FF</sub>	V			Truck/						Flow Rate
	Direction	Off-ramp	Time Period	Lanes	(mph)	(vph)	PHF	Terrain	Bus %	RV %	$E_T$	ER	$f_{HV}$	$f_{P}$	Vp (pcph)
D-2	SR-58 EB	Union Ave Off	AM	2	65.0	3,618	0.92	Level	10%	0%	1.5	1.20	0.952	1.00	4,129
D-3	SR-58 WB	Brundage Ln Off	AM	2	65.0	3,168	0.88	Level	12%	0%	1.5	1.20	0.943	1.00	3,816
D-4	SR-58 WB	Chester Ave Off	AM	2	65.0	3,096	0.88	Level	13%	0%	1.5	1.20	0.939	1.00	3,747
D-5	SR-58 WB	SR-99 NB Off	AM	2	65.0	2,955	0.88	Level	13%	0%	1.5	1.20	0.939	1.00	3,576
D-6	SR-58 WB	SR-99 SB Off	AM	2	65.0	1.867	0.88	Level	8%	0%	1.5	1.20	0.962	1.00	2,206
D-7	SR-99 NB	White Ln Off	AM	3	65.0	3,555	88.0	Level	11%	0%	1.5	1.20	0.948	1.00	4,262
D-8	SR-99 NB	Ming Ave Off	AM	4	65.0	5,608	0.94	Level	10%	0%	1.5	1.20	0.952	1.00	6,264
D-9	SR-99 NB	SR-58 Off	AM	4	65.0	6,576	0.93	Level	9%	0%	1.5	1.20	0.957	1.00	7,389
D-10	SR-99 NB	California Ave Off	AM	4	65.0	6,386	0.92	Level	11%	0%	1.5	1.20	0.948	1.00	7,323
D-11	SR-99 NB	Rosedale Hwy Off	AM	4	65.0	5,939	0.92	Level	12%	0%	1.5	1.20	0.943	1.00	6,843
D-12	SR-99 NB	Buck Owens Blvd Off	AM	4	65.0	4,209	0,92	Level	15%	0%	1.5	1.20	0.930	1.00	4,918
D-13	SR-99 NB	Airport Dr Off	AM	4	65.0	3,693	0.86	Level	17%	0%	1.5	1.20	0.922	1.00	4,659
D-14	SR-99 SB	Rosedale Hwy Off	AM	4	65.0	4,062	0.86	Level	14%	0%	1.5	1.20	0.935	1.00	5,054
D-15	SR-99 SB	California Ave Off	AM	4	65.0	5,092	0.89	Level	13%	0%	1.5	1.20	0.939	1.00	6,093
D-16	SR-99 SB	SR-58 Off	AM	4	65.0	4,352	0.90	Level	15%	0%	1.5	1.20	0.930	1.00	5,198
D-17	SR-99 SB	Ming Ave Off	AM	4	65.0	4,078	0.91	Level	12%	0%	1.5	1.20	0.943	1.00	4,750
D-18	SR-99 SB	White Ln Off	AM	3	65.0	3,512	0,90	Level	14%	0%	1.5	1.20	0.935	1.00	4,175

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	al Informatio	n	Off-Rar	np Data						Off-Ram	p Volume	Adjustment						
	Freeway/				S <sub>FR</sub>	V <sub>R</sub>	De	cei Lane	(ft)			Truck/						Flow Rate
	Direction	Off-ramp	Туре	Lanes	(mph)	(vph)	$L_{D1}$	$L_{D2}$	$L_{Deff}$	PHF	Terrain	Bus %	RV %	$E_T$	$E_R$	$f_{HV}$	f₽	v <sub>p</sub> (pcph)
D-2	SR-58 EB	Union Ave Off	Right	1	45.0	821	140		140	0.90	Level	4%	0%	1.5	1.2	0.980	1.00	930
D-3			Right	1	25.0	509	150		150	0.88	Level	8%	0%	1.5	1.2	0.962	1.00	602
D-4	SR-58 WB	Chester Ave Off	Right	1	45.0	474	140		140	0.86	Level	4%	0%	1.5	1.2	0.980	1.00	562
D-5	SR-58 WB	SR-99 NB Off	Right	1	55.0	1,088	160		160	0.86	Level	23%	0%	1.5	1.2	0.897	1.00	1,411
D-6	SR-58 WB	SR-99 SB Off	Right	1	25.0	938	110		110	0.88	Level	9%	0%	1.5	1.2	0.957	1.00	1,114
D-7	SR-99 NB	White Ln Off	Right	1	45.0	202	140		140	0.87	Level	8%	0%	1.5	1.2	0.962	1.00	241
D-8	SR-99 NB	Ming Ave Off	Right	1	25.0	297	200		200	0.88	Level	5%	0%	1.5	1.2	0.976	1.00	346
D-9	SR-99 NB	SR-58 Off	Right	1	55.0	1,768	140		140	0.90	Level	7%	0%	1.5	1.2	0.966	1.00	2,033
D-10	SR-99 NB	California Ave Off	Right	1	45.0	1,131	140		140	0.88	Level	2%	0%	1.5	1.2	0.990	1.00	1,298
D-11	SR-99 NB	Rosedale Hwy Off	Right	1	45.0	1,730	140		140	0.90	Level	5%	0%	1.5	1.2	0.976	1.00	1,970
D-12	SR-99 NB	Buck Owens Blvd Off	Right	1	25.0	822	140		140	0.84	Level	7%	0%	1.5	1.2	0.966	1.00	1,013
D-13	SR-99 NB	Airport Dr Off	Right	1	45.0	1,508	300		300	0.84	Level	4%	0%	1.5	1.2	0.980	1.00	1,831
D-14	SR-99 SB	Rosedale Hwy Off	Right	1	45.0	585	140		140	0.86	Level	8%	0%	1.5	1.2	0.962	1.00	707
D-15	SR-99 SB	California Ave Off	Right	1	45.0	1,077	140		140	0.88	Level	2%	0%	1.5	1.2	0.990	1.00	1,236
D-16	SR-99 SB	SR-58 Off	Right	1	55.0	1,467	160		160	0.88	Level	15%	0%	1.5	1.2	0.930	1.00	1,792
D-17	SR-99 SB	Ming Ave Off	Right	1	45.0	811	210		210	0.88	Level	3%	0%	1.5	1.2	0.985	1.00	935
D-18	SR-99 SB	White Ln Off	Right	2	45.0	1,347	140	1,150	1,430	0.86	Level	5%	0%	1.5	1.2	0.976	1.00	1,605

HCM 2000 Diverge Ramp Junctions Capacity Analysis

General Information

Adjacent Upstream Ramp Data

			, , , , , , , , , , , , , , , , , , , ,	opou oum m	amp Data									
	Freeway/				Volume			Truck/				···- ··· · · · · · · · · · · · · · · ·		Flow Rate
	Direction	Off-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	$E_T$	$E_{B}$	$f_{HV}$	f₽	v <sub>p</sub> (pcph)
D-2		Union Ave Off	No						*					p (II- )
D-3	SR-58 WB	Brundage Ln Off	No											
D-4	SR-58 WB	Chester Ave Off	No											
D-5	SR-58 WB	SR-99 NB Off	No											
D-6	SR-58 WB	SR-99 SB Off	No											
D-7	SR-99 NB	White Ln Off	No											
D-8	SR-99 NB	Ming Ave Off	No											
D-9	SR-99 NB	SR-58 Off	No											
D-10	SR-99 NB	California Ave Off	No											
D-11	SR-99 NB	Rosedale Hwy Off	No											
D-12	SR-99 NB	Buck Owens Blvd Off	No											
D-13	SR-99 NB	Airport Dr Off	No											
D-14	SR-99 SB	Rosedale Hwy Off	No											
D-15		California Ave Off	No											
D-16	SR-99 SB	SR-58 Off	No											
D-17	SR-99 SB	Ming Ave Off	No											
D-18		White Ln Off	On	5,270	243	0.88	Level	4%	0%	1.5	1.2	0.980	1.00	282

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	al Information	n	Adjacent	Downstream	Ramp Da	ita									v 12 Esta	imation		
	Freeway/				Volume			Truck/						Flow Rate	L	EQ		V <sub>12</sub>
	Direction	Off-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	$E_T$	$E_R$	$f_{HV}$	$f_P$	v <sub>p</sub> (pcph)	25-13	25-14	$P_{FD}$	(pcph)
D-2	SR-58 EB	Union Ave Off	No														1.000	4,129
D-3	SR-58 WB	Brundage Ln Off	No														1.000	3,816
D-4	SR-58 WB	Chester Ave Off	No														1.000	3,747
D-5	SR-58 WB	SR-99 NB Off	No														1.000	3,576
D-6	SR-58 WB	SR-99 SB Off	No														1.000	2,206
D-7	SR-99 NB	White Ln Off	On	1,250	1,571	0.86	Level	8%	0%	1.5	1.2	0.962	1.00	1,900		2,055	0.642	2,824
D-8	SR-99 NB	Ming Ave Off	No	,				• /•	0,0			0.002	1.00	1,500		2,000	0.436	2,926
D-9	SR-99 NB	SR-58 Off	No												ļ		0.436	4,368
D-10	SR-99 NB	California Ave Off	No														0.436	3,925
D-11	SR-99 NB	Rosedale Hwy Off	No														0.436	4,095
D-12	SR-99 NB	Buck Owens Blvd Off	No														0.436	2,716
D-13	SR-99 NB	Airport Dr Off	No														0.436	3,064
D-14	SR-99 SB	Rosedale Hwy Off	No														0.436	2,602
D-15	SR-99 SB	California Ave Off	No														0.436	3,354
D-16	SR-99 SB	SR-58 Off	No														0.436	3,277
D-17	SR-99 SB	Ming Ave Off	No														0.436	2,599
D-18	SR-99 SB	White Ln Off	On	1,520	111	0.87	Level	9%	0%	1.5	1.2	0.957	1.00	133	6,256	314	0.450	2,599

HCM 2000 Diverge Ramp Junctions Capacity Analysis

General Information Capacity Checks Freeway/  $v_{Fi}$ Max v<sub>Fi</sub>  $v_3, v_{av34}$ V3, Vav34 Max V<sub>12</sub> **v**FO V3, Vav34  $V_{12a}$ Max v<sub>FO</sub> Direction Off-ramp >1.5\*v<sub>12</sub>/2? (pcph) (pcph) LOS F? (pcphpl) > 2,700? (pcph) LOS F? (pcph) (pcph) LOS F? (pcph) D-2 SR-58 EB Union Ave Off 4,129 4,800 No No No 4,129 4,400 No 3,199 4,800 Ño D-3 SR-58 WB Brundage Ln Off 3,816 4,800 Νo 0 No No 3,816 4,400 3,214 No 4,800 No D-4 SR-58 WB Chester Ave Off 3,747 4,800 No 0 No No 3.747 4.400 No 3,185 4,800 No D-5 SR-58 WB SR-99 NB Off 3,576 4,800 No 0 No No 3.576 4,400 No 2,166 4,800 Nο D-6 SR-58 WB SR-99 SB Off 2,206 4,800 No 0 No No 2,206 4,400 No 1,093 4,800 No D-7 SR-99 NB White Ln Off 4,262 7,200 No 1,438 No No 2,824 4,400 No 4,020 7,200 No D-8 SR-99 NB Ming Ave Off 6,264 9,600 No 1,669 No No 2,926 4,400 No 5,918 9,600 No D-9 SR-99 NB SR-58 Off 7,389 9,600 No 1,510 No No 4,368 4,400 No 5,356 9,600 No D-10 SR-99 NB California Ave Off 7.323 9.600 No 1,699 No No 3,925 4,400 No 6,025 9,600 No D-11 SR-99 NB Rosedale Hwy Off 6,843 9,600 No 1,374 No No 4,095 4,400 No 4,872 No 9,600 D-12 SR-99 NB Buck Owens Blvd Off 4,918 9,600 No 1,101 No No 2.716 4,400 No 3,905 9,600 No D-13 SR-99 NB Airport Dr Off 4,659 9,600 No 798 No No 3,064 4,400 Νo 2,828 9,600 Νo D-14 SR-99 SB Rosedale Hwy Off 5,054 9,600 Νo 1,226 No No 2,602 4,400 No 4,346 9,600 No D-15 SR-99 SB California Ave Off 6,093 9,600 No 1,370 No No 3,354 4,400 No 4,857 9,600 No D-16 SR-99 SB SR-58 Off 5,198 9,600 No. 961 No No 3,277 4,400 No 3,406 9,600 No D-17 SR-99 SB Ming Ave Off 4,750 9,600 No 1,076 No No 2,599 4,400 No 3,815 9.600 No D-18 SR-99 SB White Ln Off 4,175 7,200 No 1,413 No No 2,762 4,400 2,570 7,200 No

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	al Informatio	n				Results		Speed Est	timation		
	Freeway/		v <sub>R</sub>	Max v <sub>R</sub>		Density, D	Level of	Int. Var.	Inf. Area	Out Lns.	All vehs.
	Direction	Off-ramp	(pcph)	(pcph)	LOS F?	(pcplpm)	Service	Ds	S <sub>R</sub> (mph)		
D-2	SR-58 EB	Union Ave Off	930	2,100	No	38.5	E	0.382	56.2	0.0	56.2
D-3	SR-58 WB	Brundage Ln Off	602	1,900	No	35.7	Ε	0.612	50.9	0.0	50.9
D-4	SR-58 WB	Chester Ave Off	562	2,100	No	35.2	Ε	0.349	57.0	0.0	57.0
D-5	SR-58 WB	SR-99 NB Off	1,411	2,200	No	33.6	D	0.295	58.2	0.0	58.2
D-6	SR-58 WB		1,114	1,900	No	22.2	С	0.658	49.9	0.0	49.9
D-7	SR-99 NB	White Ln Off	241	2,100	No	27.3	С	0.320	57.6	69.6	61.2
D-8	SR-99 NB	Ming Ave Off	346	1,900	No	27.6	С	0.589	51.4	68.7	59.4
D-9	SR-99 NB	SR-58 Off	2,033	2,200	No	40.6	E	0.351	56.9	69.3	61.4
D-10	SR-99 NB	California Ave Off	1,298	2,100	No	36.7	E	0.415	55.5	68.6	60.9
D-11	SR-99 NB	Rosedale Hwy Off	1,970	2,100	No	38.2	E	0.475	54.1	69.8	59.5
D-12	SR-99 NB	Buck Owens Blvd Off	1,013	1,900	No	26.3	С	0.649	50.1	70.9	57.7
D-13	SR-99 NB	Airport Dr Off	1,831	2,100	No	27.9	Č	0.463	54.4	71.3	59.2
D-14	SR-99 SB	Rosedale Hwy Off	707	2,100	No	25.4	č	0.362	56.7	70.4	62.6
D-15	SR-99 SB	California Ave Off	1,236	2,100	No	31.8	Ď	0.409	55.6	69.9	61.2
D-16	SR-99 SB	SR-58 Off	1,792	2,200	No	31.0	Ď	0.329	57.4	71.3	61.9
D-17	SR-99 SB	Ming Ave Off	935	2,100	No	24.7	č	0.382	56.2	71.0	62.1
D-18	SR-99 SB	White Ln Off	1,605	4,100	No	15.1	В	0.442	54.8	69.7	59.1

HCM 2000 Basic Freeway Segments Capacity Analysis Jurisdiction Bakersfield, CA
Analysis Year Existing (2008)
Analyst BP

Agency or Company TRIP
Date 3.3.10
Project Description Centennial Corridor Study

General Information Flow Rate Calculation Speed Calculation Results Freeway/ Analysis Volume Truck/ Flow Rate Measured S Density, D Level of Direction From/To Time Period (vph) PHF Lanes Terrain Bus % RV% E<sub>T</sub> Eπ  $f_{\text{HV}}$  $f_P$ v<sub>p</sub> (pcphpi) FFS (mph) (mph) (pcplpm) Service B-2 SR-58 EB H St Off to Chester Ave On PM 3,003 0.92 2 Level 13% 0% 1.5 0.939 1.2 1.00 1.738 65.0 64.3 27.0 D B-3 SR-58 EB Chester Ave to Union Ave PM 3,562 0.92 2 Level 11% 0% 1.5 1.2 0.948 1.00 2.042 65.0 60.7 33.7 D B-4 SR-58 EB Union Ave Off to On РМ 3.005 0.90 2 Level 11% 0% 1.5 1.2 0.948 1.00 1,761 65.0 64.2 27.4 D SR-58 EB Union Ave to Cottonwood Rd ΡМ 3,469 0.90 2 Level 10% 0% 1.5 1.2 0.952 1.00 2,024 65.0 61.0 33.2 D SR-58 WB Cottonwood Rd to Union Ave PM 3,053 0.92 2 Level 9% 0% 1.5 1.2 0.957 1.00 1,734 65.0 64.4 26.9 D SR-58 WB Brundage Ln Off to On PM 2,703 0.92 2 Level 9% 0% 1.5 1.2 0.957 1.00 1,535 65.0 65.0 23.6 С SR-58 WB Chester Ave Off to H St On PM 2,832 0.92 2 Level 9% 0% 1.5 1.2 0.957 1.00 1,608 65.0 64.9 24.8 C B-9 SR-58 WB H St to SR-99 PM 3,291 0.92 2 8% Level 0% 1.5 1.2 0.962 1.00 1,860 65.0 63.3 29.4 D B-10 SR-58 WB SR-99 NB Off to SB Off PM 2,207 0.92 2 2% 0% Level 1.5 1.2 0.990 1.00 1,211 65.0 65.0 18.6 C SR-99 NB Panama Ln to White Ln B-11 PM 2.448 0.90 3 16% Level 0% 1.5 1.2 0.926 1.00 979 65.0 65.0 15.1 В B-12 SR-99 NB White Ln Off to On PM 2,110 0.90 3 Level 18% 0% 1.5 1.2 0.917 1.00 852 65.0 65.0 13.1 В SR-99 NB White Ln to Ming Ave ΡМ 3,722 0.94 3 Level 12% 0% 1.5 1.2 0.943 1.00 1,399 65.0 65.0 21.5 C SR-99 NB Ming Ave Off to On ΡМ 3,319 0.93 4 Level 13% 0% 1.5 1.2 0.939 1.00 950 65.0 65.0 14.6 В B-15 SR-99 NB SR-58 Off to Wible On РΜ 3,097 0.93 Level 12% 0% 1.2 0.943 1.5 1.00 882 65.0 65.0 13.6 В SR-99 NB SR-58 to California Ave ΡМ 4,742 0.93 13% 4 Level 0% 1.5 1.2 0.939 1.00 1,358 65.0 65.0 20.9 C B-17 SR-99 NB California Ave Off to On PM 4,064 0.93 Level 14% 0% 4 1.5 1.2 0.935 1.00 1,169 65.0 65.0 18.0 В SR-99 NB California Ave to Rosedale Hwy PΜ 4,990 0.92 Level 12% 0% 1.5 1.2 0.943 1.00 1,437 65.0 65.0 22.1 C B-19 SR-99 NB Buck Owens Blvd Off to On PΜ 2,926 0.89 Level 15% 0% 1.5 1.2 0.930 1.00 884 65.0 65.0 13.6 В B-20 SR-99 NB Airport Dr Off to Golden State Blvd On PM 2,194 0.87 Level 20% 0% 1.5 1.2 0.909 1.00 925 65.0 65.0 14.2 ₿ B-21 SR-99 SB Golden State Ave Off to Airport Dr On PM 3,150 0.89 3 Level 17% 0% 1.5 1.2 0.922 1.00 1,280 65.0 65.0 19.7 C B-22 SR-99 SB Airport Dr to Rosedale Hwy PM 4,875 0.88 0% Level 12% 1.5 1.2 0.943 1.00 1,468 65.0 65.0 22.6 C B-23 SR-99 SB Rosedale Hwy Off to On РМ 4,242 0.88 4 Level 12% 0% 1.5 1.2 0.943 1.00 1,277 65.0 65.0 19.7 C B-24 SR-99 SB Rosedale Hwy to California Ave PM 6,700 0.92 4 10% 0% Level 1.5 1.2 0.952 1.00 1,912 65.0 62.7 30.5 D B-25 SR-99 SB California Ave Off to On PM 5,673 0.92 4 Level 12% 0% 1.5 1.2 0.943 1.00 1,634 65.0 25.2 64.8 C B-26 SR-99 SB California Ave to SR-58 PM 6,518 0.92 4 Level 10% 0% 1.5 1.2 0.952 1.00 1.860 65.0 63.3 29.4 D B-27 SR-99 SB SR-58 Off to On РМ 4,622 0.92 Level 8% 0% 1.5 1.2 0.962 1.00 1,306 65.0 65.0 20.1 С B-28 SR-99 SB Ming Ave Off to On PM 4,470 0.92 Level 9% 0% 1.5 1.2 0.957 1.00 1,269 65.0 65.0 19.5 С SR-99 SB Ming Ave to White Ln B-29 PM 4,928 0.893 8% Level 0% 1.5 1.2 0.962 1.00 1.920 65.0 62.6 30.6 D B-30 SR-99 SB White Ln Off to On РМ 2,899 0.89 3 Level 12% 0% 1.5 1.2 0.943 1.00 1,151 65.0 65.0 17.7 В SR-99 SB White Ln to Panama Ln PM 3,176 0.90 Level 11% 0% 1.5 1.2 0.948 1.00 1,241 65.0 65.0 19.1

HCM 2000 Merge Ramp Junctions Capacity Analysis Jurisdiction Bakersfield, CA Agency or Company TRIP

Analysis Year Existing (2008) Date 3.3.10

Analyst BP Project Description Centennial Corridor Study

Gener	al Informatio	n		Freeway	Data		Freeway	/ Volume A	djustment						
	Freeway/		Analysis		S <sub>FF</sub>	٧			Truck/						Flow Rate
	Direction	On-ramp	Time Period	Lanes	(mph)	(vph)	PHF	Terrain	Bus %	RV %	Ε <sub>τ</sub>	$E_{R}$	$f_{HV}$	$f_{P}$	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	PM	2	65.0	3,003	0.92	Level	13%	0%	1.5	1.2	0.939	1.00	3,476
M-2	SR-58 EB	Union Ave SB On	PM	2	65.0	3,005	0.90	Level	11%	0%	1.5	1.2	0.948	1.00	3,523
M-3	SR-58 EB	Union Ave NB On	. PM	2	65.0	3,226	0.90	Level	10%	0%	1.5	1.2	0.952	1.00	3,764
M-4	SR-58 WB	Brundage Ln On	PM	2	65.0	2,703	0.92	Level	9%	0%	1.5	1.2	0.957	1.00	3,070
M-5	SR-58 WB	Union Ave SB On	PM	2	65.0	2,952	0.92	Level	8%	0%	1.5	1.2	0.962	1.00	3,337
M-6	SR-58 WB	H St On	РМ	2	65.0	2,832	0.92	Level	9%	0%	1.5	1.2	0.957	1.00	3,217
M-7	SR-99 NB	White Ln EB On	PM	3	65.0	2,110	0.90	Level	18%	0%	1.5	1.2	0.917	1.00	2,555
M-8	SR-99 NB	White Ln WB On	PM	3	65.0	3,265	0.90	Level	13%	0%	1.5	1.2	0.939	1.00	3,864
M-9	SR-99 NB	Ming Ave On	PM	4	65.0	3,319	0.93	Level	13%	0%	1.5	1.2	0.939	1.00	3,801
M-10	SR-99 NB	Wible On	PM	4	65.0	3,097	0.93	Level	12%	0%	1.5	1.2	0.943	1.00	3,530
M-11	SR-99 NB	SR-58 On	PM	4	65.0	3,658	0.93	Level	11%	0%	1.5	1.2	0.948	1.00	4,150
M-12	SR-99 NB	California Ave EB On	PM	4	65.0	4,064	0.93	Level	14%	0%	1.5	1.2	0.935	1.00	4,676
M-13	SR-99 NB	California Ave WB On	PM	4	65.0	4,693	0.93	Level	13%	0%	1.5	1.2	0.939	1.00	5,374
M-14	SR-99 NB	Buck Owens Blvd On	PM	4	65.0	2,926	0.89	Level	15%	0%	1.5	1.2	0.930	1.00	3,534
M-15	SR-99 SB	Airport Dr On	PM	4	65.0	3,150	0.89	Level	17%	0%	1.5	1.2	0.922	1.00	3,840
M-16	SR-99 SB	Rosedale Hwy WB On	PM	4	65.0	4,242	0.88	Level	12%	0%	1.5	1.2	0.943	1.00	5,110
M-17	SR-99 SB	Rosedale Hwy EB On	PM	4	65.0	5,509	0.88	Level	11%	0%	1.5	1.2	0.948	1.00	6,605
M-18	SR-99 SB	California Ave On	PM	4	65.0	5,673	0.92	Level	12%	0%	1.5	1.2	0.943	1.00	6,536
M-19	SR-99 SB	SR-58 On	PM	4	65.0	4,622	0.92	Level	8%	0%	1.5	1.2	0.962	1.00	5,225
M-20	SR-99 SB	Real Rd On	PM	4	65.0	5,746	0.92	Level	7%	0%	1.5	1.2	0.966	1.00	6,464
M-21	SR-99 SB	Ming Ave On	PM	3	65.0	4,470	0.92	Level	9%	0%	1.5	1.2	0.957	1.00	5,077
M-22	SR-99 SB	White Ln WB On	PM	3	65.0	2,899	0.89	Level	12%	0%	1.5	1.2	0.943	1.00	3,453
M-23	SR-99 SB	White Ln EB On	PM	3	65.0	3,038	0.89	Level	11%	0%	1.5	1.2	0.948	1.00	3,601

HCM 2000 Merge Ramp Junctions Capacity Analysis

Gener	al Informatio	n	On-Rar	np Data						On-Ran	np Volume	Adjustment						
	Freeway/				S <sub>FR</sub>	VR	Ac	cel Lane	(ft)			Truck/						Flow Rate
	Direction	On-ramp	Туре	Lanes	(mph)	(vph)	$L_{A1}$	$L_{A2}$	$L_{Aeff}$	PHF	Terrain	Bus %	RV %	ET	ER	f <sub>HV</sub>	f₽	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	Right	1	45.0	559	540		540	0.90	Level	3%	0%	1.5	1.2	0.985	1.00	630
M-2	SR-58 EB	Union Ave SB On	Right	1	25.0	221	480		480	0.91	Level	3%	0%	1.5	1.2	0.985	1.00	247
M-3	SR-58 EB	Union Ave NB On	Right	1	45.0	243	540		540	0.91	Level	6%	0%	1.5	1.2	0.971	1.00	275
M-4	SR-58 WB	Brundage Ln On	Right	1	25.0	249	480		480	0.90	Level	3%	0%	1.5	1.2	0.985	1.00	281
M-5	SR-58 WB	Union Ave SB On	Right	1	25.0	344	540		540	0.90	Level	2%	0%	1.5	1.2	0.990	1.00	386
M-6	SR-58 WB	H St On	Right	1	45.0	459	540		540	0.90	Level	2%	0%	1.5	1.2	0.990	1.00	515
M-7	SR-99 NB	White Ln EB On	Right	1	25.0	1.155	360		360	0.86	Level	4%	0%	1.5	1.2	0.980	1.00	
M-8	SR-99 NB	White Ln WB On	Right	1	45.0	457	530		530	0.86	Level	1%	0%	1.5	1.2	0.995	1.00	1,370
M-9	SR-99 NB	Ming Ave On	Right	1	45.0	1,215	560		560	0.88	Level	1%	0%	1.5	1.2	0.995	1.00	534
M-10	SR-99 NB	Wible On	Right	1	25.0	561	550		550	0.90	Level	2%	0%	1.5	1.2	0.990	1.00	1,388
M-11	SR-99 NB	SR-58 On	Right	1	55.0	1.084	560		560	0.88	Level	19%	0%	1.5	1.2	0.990		630
M-12	SR-99 NB	California Ave EB On	Right	1	25.0	629	500		500	0.88	Level	1%	0%	1.5	1.2	0.913	1.00 1.00	1,349
M-13	SR-99 NB	California Ave WB On	Right	1	45.0	297	540		540	0.86	Level	0%	0%	1.5	1.2	1.000		718
M-14	SR-99 NB	Buck Owens Blvd On	Right	1	25.0	479	500		500	0.84	Level	10%	0%	1.5	1.2	0.952	1.00	345
M-15	SR-99 SB	Airport Dr On	Right	1	45.0	1,725	500		500	0.86	Level	2%	0%	1.5			1.00	599
M-16	SR-99 SB	Rosedale Hwy WB On	Right	1	25.0	1,267	540		540	0.88	Level	6%	0%	1.5	1.2	0.990	1.00	2,026
M-17	SR-99 SB	Rosedale Hwy EB On	Right	1	45.0	1,191	630		630	0.88	Level	7%	0%		1.2	0.971	1.00	1,483
M-18	SR-99 SB	California Ave On	Right	1	25.0	845	490		490	0.88	Level			1.5	1.2	0.966	1.00	1,401
M-19	SR-99 SB	SR-58 On	Right	1	25.0	1,124	610		610	0.90		1%	0%	1.5	1.2	0.995	1.00	965
M-20	SR-99 SB	Real Rd On	Right	1	45.0	281	540		540	Programme Section	Level	3%	0%	1.5	1.2	0.985	1.00	1,268
M-21	SR-99 SB	Ming Ave On	Right	1	45.0	458	550			0.88	Level	1%	0%	1.5	1.2	0.995	1.00	321
M-22	SR-99 SB	White Ln WB On	Right	1	25.0				550	0.88	Level	1%	0%	1.5	1.2	0.995	1.00	523
M-23	SR-99 SB	White Ln EB On	, -	1		139	390		390	0.87	Level	1%	0%	1.5	1.2	0.995	1.00	161
27.49	011 00 OB	TTING EIT ED OII	Right		45.0	138	520		520	0.86	Level	2%	0%	1.5	1.2	0.990	1.00	162

HCM 2000 Merge Ramp Junctions Capacity Analysis

General Information Adiacent Upstream Ramp Data

acrici	ar irribirrialio	11	nujaceni	opsiream na	amp Data									
	Freeway/				Volume			Truck/						Flow Rate
	Direction	On-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Eτ	ER	$f_{HV}$	$f_P$	Vp (pcph)
M-1	SR-58 EB	Chester Ave On	No											
M-2	SR-58 EB	Union Ave SB On	No											
M-3	SR-58 EB	Union Ave NB On	No											
M-4	SR-58 WB	Brundage Ln On	No											
M-5	SR-58 WB	Union Ave SB On	No											
M-6	SR-58 WB	H St On	No											
M-7	SR-99 NB	White Ln EB On	Off	1,250	338	0.90	Levei	4%	0%	1.5	1.2	0.980	1.00	383
M-8	SR-99 NB	White Ln WB On	On	680	1,155	0.86	Level	4%	0%	1.5	1.2	0.980	1.00	1,370
M-9	SR-99 NB	Ming Ave On	No		.,	0.00	2010	170	<b>V</b> / <b>U</b>	1.0	1.2	0.500	1.00	1,570
M-10	SR-99 NB	Wible On	No											
M-11	SR-99 NB	SR-58 On	No											
M-12	SR-99 NB	California Ave EB On	No											
M-13	SR-99 NB	California Ave WB On	No											
M-14	SR-99 NB	Buck Owens Blvd On	No											
M-15	SR-99 SB	Airport Dr On	No											
M-16	SR-99 SB	Rosedale Hwy WB On	No											
M-17	SR-99 SB	Rosedale Hwy EB On	No											
M-18	SR-99 SB	California Ave On	No											
M-19	SR-99 SB	SR-58 On	No											
M-20	SR-99 SB	Real Rd On	No											
M-21		Ming Ave On	Off	2,870	1,557	0.90	Level	1%	0%	1.5	1.2	0.995	1.00	1,739
M-22	SR-99 SB	White Ln WB On	Off	1,520	2,029	0.88	Level	3%	0%	1.5	1.2	0.985	1.00	2,340
M-23	SR-99 SB	White Ln EB On	On	600	139	0.87	Level	1%	0%	1.5	1.2	0.995	1.00	2,340 161

HCM 2000 Merge Ramp Junctions Capacity Analysis

General	Informatio	n	Adjacent	Downstream	Ramp Da	ita									V 12 Est	imation					
	Freeway/				Volume			Truck/						Flow Rate	<del></del>	EΩ	Pn	4 Equation	пs		V <sub>12</sub>
	Direction	On-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Eτ	$E_R$	$f_{HV}$	$f_P$	v <sub>p</sub> (pcph)	25-2	25-3	1 "	2	3	$P_{EM}$	(pcph)
1			No														0.593			1.000	3,476
_		0	No														0.591			1.000	3,523
		Union Ave NB On	No														0.593			1.000	3,764
M-4 S	SR-58 WB	Brundage Ln On	No														0.591			1.000	3,070
M-5 S	SR-58 WB	Union Ave SB On	No														0.593			1.000	3,337
M-6	SR-58 WB	H St On	No														0.593			1.000	3,217
M-7	SR-99 NB	White Ln EB On	On	680	457	0.86	Level	1%	0%	1.5	1.2	0.995	1.00	534	-95	3,606	0.588	0.751		0.588	1,502
M-8	SR-99 NB	White Ln WB On	No											00,	1,128	0,000	0.592	0.701		0.592	2,289
M-9	SR-99 NB	Ming Ave On	No												1,120		0.593			0.392	696
	SR-99 NB		No														0.593			0.163	1,357
M-11	SR-99 NB	SR-58 On	No														0.593			0.364	675
M-12	SR-99 NB	California Ave EB On	No														0.592			0.163	
M-13	SR-99 NB	California Ave WB On	No														0.593				1,641
M-14	SR-99 NB	Buck Owens Blvd On	No														0.593			0.308	1,658
		Airport Dr On	No														0.592			0.366 0.088	1,293
		Rosedale Hwy WB On	No														0.593			0.066	340
		Rosedale Hwy EB On	No														0.595				1,396
		California Ave On	No											*			0.595			0.199	1,313
M-19	SR-99 SB	SR-58 On	No														0.595			0.316	2,064
		Real Rd On	No														0.593			0.331	1,732
		Ming Ave On	No												1,394		0.593	0.001		0.311	2,014
		White Ln WB On	On	600	138	0.86	Level	2%	0%	1.5	1.2	0.990	1.00	162		1 071		0.831		0.593	3,010
LOCOCCO CONTRACTOR CON			No	550	.50	0.00	L0 # 61	2 /0	0 /6	1.0	1.2	0.330	1.00	102	-149	1,071	0.588	0.773		0.588	2,032
and the second second			1 110												988		0.592			0.592	2,132

HCM 2000 Merge Ramp Junctions Capacity Analysis

General Information Capacity Checks Freeway/ Max v<sub>Fi</sub> VFi Max v<sub>FO</sub>  $V_{FO}$  $V_3$ ,  $V_{av34}$ V3, Vav34 V<sub>3</sub>, V<sub>av34</sub> Max v<sub>R12a</sub> V<sub>12a</sub> V<sub>R12a</sub> Direction On-ramp LOS F? (pcph) (pcph) >1.5\*v<sub>12</sub>/2? (pcph) (pcph) LOS F? (pcphpl) > 2,700? (pcph) (pcph) (pcph) LOS F? SR-58 EB Chester Ave On 3,476 4,700 No 4,107 4,700 No No No 3,476 4,107 4,600 No SR-58 EB Union Ave SB On 3,523 4,700 No 3,769 4,700 No 0 No 3,523 Nο 3,769 4,600 No M-3 SR-58 EB Union Ave NB On 3,764 4,700 4.039 No 4,700 No 0 No No 3,764 4,039 4,600 No SR-58 WB Brundage Ln On 3,070 4,700 No 3,351 4,700 No 0 No No 3,070 3,351 4.600 No M-5 SR-58 WB Union Ave SB On 3,337 4.700 No 3,723 4,700 No 0 No No 3,337 3,723 4,600 No M-6 SR-58 WB H St On 3,217 4.700 3,732 No 4,700 No 0 No No 3,217 3,732 4,600 No SR-99 NB White Ln EB On 2,555 7,050 No 3,925 7,050 No 1.054 No No 1,502 2,871 4,600 No SR-99 NB White Ln WB On 3,864 7,050 No 4,398 7,050 No 1,575 No No 2,289 2,823 4,600 No SR-99 NB Ming Ave On 3,801 9,400 No 5,188 9,400 No 1,552 No Yes 1,520 2,908 4,600 No M-10 SR-99 NB Wible On 3,530 9,400 No 4,159 9,400 No 1,087 No Yes 1,412 2,042 4,600 No M-11 SR-99 NB SR-58 On 4,150 9,400 No 5.499 9,400 No 1,737 Νo Yes 1,660 3,009 4,600 No M-12 SR-99 NB California Ave EB On 4,676 9,400 No 5.394 9,400 No 1,517 No Yes 1.870 2,589 4,600 No M-13 SR-99 NB California Ave WB On 5,374 9,400 No 5,720 9,400 No 1,858 No Yes 2,150 2,495 4,600 No M-14 SR-99 NB Buck Owens Blvd On 3,534 9.400 No 4,133 9,400 No 1,120 No Yes 1,414 2,012 4,600 Nο M-15 SR-99 SB Airport Dr On 3,840 9,400 No 5,866 9,400 No 1,750 No Yes 1,536 3,562 4,600 No SR-99 SB Rosedale Hwy WB On M-16 5,110 9,400 No 6,593 9,400 No 1,857 No Yes 2,044 3,527 4,600 No M-17 SR-99 SB Rosedale Hwy EB On 6,605 9,400 No 8,005 9,400 No 2.646 No Yes 2,642 4,043 4,600 No M-18 SR-99 SB California Ave On 6,536 9,400 No 7,501 9,400 No 2,236 No Yes 2,615 3,580 4.600 No M-19 SR-99 SB SR-58 On 5,225 9,400 6.492 No 9,400 Nο 1,747 No Yes 2,090 3,358 4,600 No M-20 SR-99 SB Real Rd On 6.464 9,400 No 6,785 9,400 No 2,225 No Yes 2.586 2,907 4,600 No SR-99 SB Ming Ave On 5,077 7,050 No 5,600 7,050 No 2,067 No No 3,010 3,533 4,600 No M-22 SR-99 SB White Ln WB On 3,453 7,050 No 3,613 7,050 No 1,421 No No 2,032 2,192 4,600 No M-23 SR-99 SB White Ln EB On 3,601 7,050 No 3,763 7,050 No 1.469 No No 2,132 2,294 4,600 No

HCM 2000 Merge Ramp Junctions Capacity Analysis

Gener	al Informatio	n				Results		Speed Es	timation		
	Freeway/		v <sub>R</sub>	Max v <sub>R</sub>		Density, D	Level of	Int. Var.	Inf. Area	Out Lns.	All vehs.
	Direction	On-ramp	(pcph)	(pcph)	LOS F?	(pcplpm)	Service	Ms	S <sub>R</sub> (mph)	S <sub>O</sub> (mph)	S (mph)
M-1	SR-58 EB	Chester Ave On	630	2,100	No	33.8	D	0.509	53.3	0.0	53.3
M-2	SR-58 EB	Union Ave SB On	247	1,900	No	31.8	D	0.466	54.3	0.0	54.3
M-3	SR-58 EB	Union Ave NB On	275	2,100	No	33.5	D	0.494	53.6	0.0	53.6
M-4	SR-58 WB		281	1,900	No	28.5	D	0.408	55.6	0.0	55.6
M-5	SR-58 WB		386	1,900	No	31.0	D	0.455	54.5	0.0	54.5
M-6	SR-58 WB	H St On	515	2,100	No	31.0	D	0.435	55.0	0.0	55.0
M-7	SR-99 NB	White Ln EB On	1,370	1,900	No	25.0	С	0.372	56.4	63.0	58.1
M-8	SR-99 NB	White Ln WB On	534	2,100	No	23.9	С	0.339	57.2	61.1	58.6
M-9	SR-99 NB	Ming Ave On	1,388	2,100	No	24.0	С	0.342	57.1	62.7	59.5
M-10	SR-99 NB	Wible On	630	1,900	No	17.7	В	0.324	57.6	63.0	60.2
M-11	SR-99 NB	SR-58 On	1,349	2,200	No	24.8	С	0.338	57.2	62.3	59.4
M-12	SR-99 NB	California Ave EB On	718	1,900	No	22.2	С	0.348	57.0	61.8	59.4
M-13	SR-99 NB	California Ave WB On	345	2,100	No	21.4	С	0.320	57.6	61.0	59.5
M-14	SR-99 NB	Buck Owens Bivd On	599	1,900	No	17.8	В	0.325	57.5	63.0	60.2
M-15	SR-99 SB	Airport Dr On	2,026	2,100	No	29.2	D	0.413	55.5	62.7	58.1
M-16	SR-99 SB	Rosedale Hwy WB On	1,483	1,900	No	28.9	D	0.427	55.2	61.3	57.9
M-17	SR-99 SB	Rosedale Hwy EB On	1,401	2,100	No	32.4	D	0.486	53.8	59.7	56.6
M-18	SR-99 SB	California Ave On	965	1,900	No	29.9	D	0.436	55.0	59.7	57.4
M-19	SR-99 SB	SR-58 On	1,268	1,900	No	27.3	Ċ	0.403	55.7	61.2	58.2
M-20	SR-99 SB	Real Rd On	321	2,100	No	24.6	Č	0.344	57.1	59.8	58.6
M-21	SR-99 SB	Ming Ave On	523	2,100	No	29.3	Ď	0.405	55.7	59.4	57.0
M-22	SR-99 SB	White Ln WB On	161	1,900	No	20.1	Č	0.336	57.3	61.7	58.9
M-23	SR-99 SB	White Ln EB On	162	2,100	No	20.0	Č	0.313	57.8	61.5	59.2

**HCM 2000 Diverge Ramp Junctions Capacity Analysis** 

Jurisdiction Bakersfield, CA Agency or Company TRIP Analysis Year Existing (2008)

Date 3.3.10

Analyst BP Project Description Centennial Corridor Study

General Information Freeway Data Freeway Volume Adjustment Freeway/ Analysis  $S_{FF}$ ٧ Truck/ Flow Rate Direction Off-ramp Time Period Lanes (mph) (vph) PHF Terrain Bus % RV % ET  $E_R$  $f_{HV}$ f₽ Vp (pcph) D-2 SR-58 EB Union Ave Off PM 65.0 3,562 0.92 Level 11% 0.0% 1.5 1.2 0.948 1.00 4,085 SR-58 WB Brundage Ln Off PM 2 65.0 3,053 0.92 Level 9% 0.0% 1.5 1.2 0.957 1.00 3,468 SR-58 WB Chester Ave Off PM 2 65.0 3,296 0.92 8% Level 0.0% 1.5 1.2 0.962 1.00 3,726 SR-58 WB SR-99 NB Off PM 2 65.0 3,291 0.92 Level 8% 0.0% 1.5 1.2 0.962 1.00 3,720 D-6 SR-58 WB SR-99 SB Off PM 2 65.0 2,207 0.92 Level 2% 0.0% 1.5 1.2 0.990 1.00 2,423 0-7 SR-99 NB White Ln Off PM 3 65.0 2,448 0.90 Level 16% 0.0% 1.5 1.2 0.926 1.00 2,938 D-8 SR-99 NB Ming Ave Off PM 4 65.0 3,722 0.94 Level 12% 0.0% 1.5 1.2 0.943 1.00 4,197 D-9 SR-99 NB SR-58 Off РМ 65.0 4,534 0.93 Level 10% 0.0% 1.5 1.2 0.952 1.00 5,119 D-10 SR-99 NB California Ave Off РМ 65.0 4,742 0.93 Level 13% 0.0% 1.5 1.2 0.939 1.00 5,430 D-11 SR-99 NB Rosedale Hwy Off ΡМ 65.0 4,990 0.92 Level 12% 0.0% 1.5 1.2 0.943 1.00 5,749 D-12 SR-99 NB Buck Owens Blvd Off РМ 65.0 3.230 0.92 Level 15% 0.0% 1.5 1.2 0.930 1.00 3,774 D-13 SR-99 NB Airport Dr Off PM 65.0 3,405 Level 0.89 15% 0.0% 1.5 1.2 0.930 1.00 4,113 SR-99 SB Rosedale Hwy Off D-14 PM 65.0 4,875 0.88 Level 12% 0.0% 1.5 1.2 0.943 1.00 5,872 D-15 SR-99 SB California Ave Off PM 65.0 6,700 0.92 Level 10% 0.0% 1.5 1.2 0.952 1.00 7,647 SR-99 SB SR-58 Off PM 65.0 6,518 0.92 Level 10% 0.0% 1.5 1.2 0.952 1.00 7,439 D-17 SR-99 SB Ming Ave Off PΜ 65.0 6,027 0.92 Level 7% 0.0% 1.5 1.2 0.966 1.00 6,780 D-18 SR-99 SB White Ln Off PM 65.0 4,928 0.89 Level 8% 0.0% 1.5 1.2 0.962 5,759 1.00

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	al Information	n	Off-Ran	np Data						Off-Ram	p Volume	Adjustment						
	Freeway/		-		S <sub>FR</sub>	V <sub>R</sub>	De	cel Lane	(ft)			Truck/						Flow Rate
	Direction	Off-ramp	Туре	Lanes	(mph)	(vph)	$L_{D1}$	$L_{D2}$	$L_{Deff}$	PHF	Terrain	Bus %	RV %	$E_T$	$E_{R}$	$f_{HV}$	$f_P$	v <sub>p</sub> (pcph)
D-2	SR-58 EB	Union Ave Off	Right	1	45.0	557	140		140	0.90	Level	12%	0.0%	1.5	1.2	0.943	1.00	656
D-3	SR-58 WB	Brundage Ln Off	Right	1	25.0	350	150		150	0.88	Level	5%	0.0%	1.5	1.2	0.976	1.00	408
D-4	SR-58 WB	Chester Ave Off	Right	1	45.0	464	140		140	0.90	Level	2%	0.0%	1.5	1.2	0.990	1.00	521
D-5	SR-58 WB	SR-99 NB Off	Right	1	55.0	1,084	160		160	0.90	Level	19%	0.0%	1.5	1.2	0.913	1.00	1,319
D-6	SR-58 WB	SR-99 SB Off	Right	1	25.0	1,124	110		110	0.88	Level	3%	0.0%	1.5	1.2	0.985	1.00	1,296
D-7	SR-99 NB	White Ln Off	Right	1	45.0	338	140		140	0.90	Level	4%	0.0%	1.5	1.2	0.980	1.00	383
D-8	SR-99 NB	Ming Ave Off	Right	1	25.0	403	200		200	0.90	Level	1%	0.0%	1.5	1.2	0.995	1.00	450
D-9	SR-99 NB	SR-58 Off	Right	1	55.0	1,437	140		140	0.92	Level	5%	0.0%	1.5	1.2	0.976	1.00	1,601
D-10	SR-99 NB	California Ave Off	Right	1	45.0	678	140		140	0.90	Level	1%	0.0%	1.5	1.2	0.995	1.00	757
D-11	SR-99 NB	Rosedale Hwy Off	Right	1	45.0	1,760	140		140	0.90	Level	6%	0.0%	1.5	1.2	0.971	1.00	2,014
D-12	SR-99 NB	Buck Owens Blvd Off	Right	1	25.0	304	140		140	0.88	Level	11%	0.0%	1.5	1.2	0.948	1.00	364
D-13	SR-99 NB	Airport Dr Off	Right	1	45.0	1,211	300		300	0.88	Level	4%	0.0%	1.5	1.2	0.980	1.00	1,404
D-14	SR-99 SB	Rosedale Hwy Off	Right	1	45.0	633	140		140	0.92	Level	9%	0.0%	1.5	1.2	0.957	1.00	719
D-15	SR-99 SB	California Ave Off	Right	1	45.0	1,027	140		140	0.92	Level	1%	0.0%	1.5	1.2	0.995	1.00	1.122
D-16	SR-99 SB	SR-58 Off	Right	1	55.0	1,896	160		160	0.92	Level	16%	0.0%	1.5	1.2	0.926	1.00	2,226
D-17	SR-99 SB	Ming Ave Off	Right	1	45.0	1,557	210		210	0.90	Level	1%	0.0%	1.5	1.2	0.995	1.00	1,739
D-18	SR-99 SB	White Ln Off	Right	2	45.0	2,029	140	1,150	1,430	0.88	Level	3%	0.0%	1.5	1.2	0.985	1.00	2,340

HCM 2000 Diverge Ramp Junctions Capacity Analysis

General Information Adjacent Upstream Ramp Data

	Freeway/				Volume			Truck/				-		Flow Rate
	Direction	Off-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	$E_T$	$E_R$	$f_{HV}$	fp	v <sub>p</sub> (pcph)
D-2	SR-58 EB	Union Ave Off	No											
D-3	SR-58 WB	Brundage Ln Off	No											
D-4	SR-58 WB	Chester Ave Off	No											
D-5	SR-58 WB	SR-99 NB Off	No											
D-6	SR-58 WB	SR-99 SB Off	No											
D-7	SR-99 NB	White Ln Off	No											
D-8	SR-99 NB	Ming Ave Off	No											
D-9	SR-99 NB	SR-58 Off	No											
D-10	SR-99 NB	California Ave Off	No											
D-11	SR-99 NB	Rosedale Hwy Off	No											
D-12	SR-99 NB	Buck Owens Blvd Off	No											
D-13	SR-99 NB	Airport Dr Off	No											
D-14	SR-99 SB	Rosedale Hwy Off	No											
D-15	SR-99 SB	California Ave Off	No											
D-16	SR-99 SB	SR-58 Off	No											
D-17	SR-99 SB	Ming Ave Off	No											
D-18	SR-99 SB	White Ln Off	On	5,270	458	0.95	Level	1%	0.0%	1.5	1.2	0.995	1.00	485

#### HCM 2000 Diverge Ramp Junctions Capacity Analysis

General Information Adjacent Downstream Ramp Data v 12 Estimation Freeway/ Volume Truck/ Flow Rate LEQ  $v_{12}$ Direction Off-ramp Exists? Distance PHF Terrain (vph) Bus % RV% E<sub>T</sub> E<sub>R</sub> f<sub>HV</sub> v<sub>p</sub> (pcph) 25-13 25-14  $P_{FD}$ (pcph) SR-58 EB Union Ave Off No 1.000 4,085 D-3 SR-58 WB Brundage Ln Off No 1.000 3,468 D-4 SR-58 WB Chester Ave Off No 1.000 3,726 D-5 SR-58 WB SR-99 NB Off No 1.000 3,720 D-6 SR-58 WB SR-99 SB Off No 1.000 2,423 D-7 SR-99 NB White Ln Off On 1,250 1,155 0.86 4.0% 0.0% 1.5 1.2 0.980 1.00 Level 1,370 1,498 0.669 2,092 D-8 SR-99 NB Ming Ave Off No 0.436 2,084 D-9 SR-99 NB SR-58 Off No 0.436 3,135 D-10 SR-99 NB California Ave Off No 0.436 2,795 D-11 SR-99 NB Rosedale Hwy Off No 0.436 3,643 D-12 SR-99 NB Buck Owens Blvd Off No 0.436 1,851 D-13 SR-99 NB Airport Dr Off No 0.436 2,585 D-14 SR-99 SB Rosedale Hwy Off No 0.436 2,966 D-15 SR-99 SB California Ave Off No 0.436 3,967 D-16 SR-99 SB SR-58 Off No 0.436 4,499 D-17 SR-99 SB Ming Ave Off No 0.436 3,937 D-18 SR-99 SB White Ln Off On 1,520 0.87 139 Level 1.0% 0.0% 1.5 1.2 0.995 1.00 161 18,936 1,572 0.450 3,878

HCM 2000 Diverge Ramp Junctions Capacity Analysis

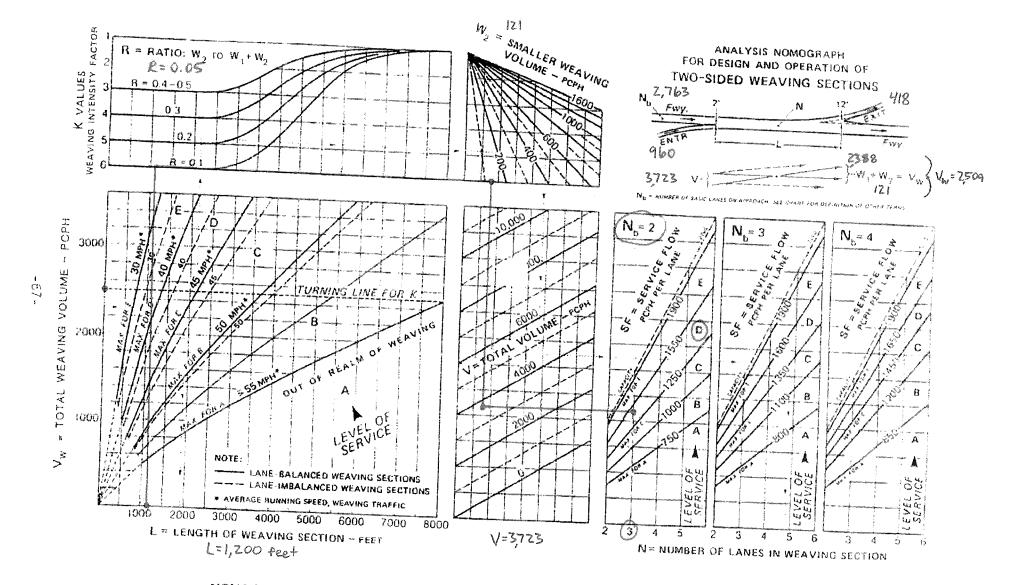
General Information Capacity Checks Freeway/ Max v<sub>Fi</sub>  $V_3$ ,  $V_{av34}$  $v_{Fi}$ V<sub>3</sub>, V<sub>av34</sub> V<sub>3</sub>, V<sub>av34</sub>  $V_{12a}$ Max V<sub>12</sub>  $\mathbf{v}_{\text{FO}}$ Max  $v_{FO}$ Direction Off-ramp LOS F? >1.5\*v<sub>12</sub>/2? (pcph) (pcph) (pcphpl) > 2,700? (pcph) (pcph) LOS F? (pcph) (pcph) LOS F? SR-58 EB Union Ave Off 4,085 4,700 No No No 0 4,085 4,400 No 3,429 4,700 No D-3 SR-58 WB Brundage Ln Off 3,468 4,700 No 0 No No 3,468 4,400 No 3,060 4,700 No D-4 SR-58 WB Chester Ave Off 3,726 4,700 No 0 No No 3.726 4,400 No 3,205 4,700 No D-5 SR-58 WB SR-99 NB Off 3,720 4,700 Νo No No 3,720 4,400 No 2,401 4,700 No D-6 SR-58 WB SR-99 SB Off 4,400 2,423 4,700 No 0 No No 2,423 No 1,126 4,700 No SR-99 NB White Ln Off 2,938 7,050 No 846 No No 2,092 4,400 2,555 No 7,050 No D-8 SR-99 NB Ming Ave Off 4,197 9,400 No 1,057 No No 2,084 4,400 No 3,747 9,400 No D-9 SR-99 NB SR-58 Off 9,400 5,119 No 992 No No 3,135 4,400 No 3,518 9,400 No SR-99 NB California Ave Off D-10 5,430 9,400 No 1,318 No No 2.795 4,400 4,673 9,400 No No D-11 SR-99 NB Rosedale Hwy Off 5,749 9,400 No 1.053 No No 3,643 4,400 No 3,735 9,400 No D-12 SR-99 NB Buck Owens Blvd Off 3,774 9.400 962 No 4,400 No No 1,851 No 3,410 9,400 No SR-99 NB Airport Dr Off 4,113 9,400 No 764 No No 2,585 4,400 No 2,709 9,400 No D-14 SR-99 SB Rosedale Hwy Off 5,872 9,400 No 1,453 No No 2,966 4,400 No 5,153 9,400 No D-15 SR-99 SB California Ave Off 7,647 9,400 No 1,840 No No 3,967 4,400 No 6,525 9,400 No D-16 SR-99 SB SR-58 Off 7,439 9,400 No 1,470 No No 4,499 4,400 Yes 5,213 9,400 No D-17 SR-99 SB Ming Ave Off 6,780 9,400 9,400 No 1,422 No No 3.937 4.400 Nο 5,042 No D-18 SR-99 SB White Ln Off 5,759 7,050 No 1,880 No 3,878 4.400 No 3,418 7,050 No

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Genera	al Informatio	n				Results		Speed Es	timation		
	Freeway/		V <sub>R</sub>	Max v <sub>R</sub>		Density, D	Level of	int. Var.	Inf. Area	Out Lns.	All vehs.
	Direction	Off-ramp	(pcph)	(pcph)	LOS F?	(pcplpm)	Service	Ds	S <sub>R</sub> (mph)	So (mph)	S (mph)
D-2	SR-58 EB	Union Ave Off	656	2,100	No	38.1	E	0.357	56.8	0.0	56.8
D-3	SR-58 WB	Brundage Ln Off	408	1,900	No	32.7	D	0.595	51.3	0.0	51.3
D-4	SR-58 WB	Chester Ave Off	521	2,100	No	35.0	Ε	0.345	57.1	0.0	57.1
D-5	SR-58 WB	SR-99 NB Off	1,319	2,200	No	34.8	D	0.287	58.4	0.0	58.4
D-6	SR-58 WB	SR-99 SB Off	1,296	1,900	No	24.1	С	0.675	49.5	0.0	49.5
D-7	SR-99 NB	White Ln Off	383	2,100	No	21.0	С	0.332	57.4	71.3	60.8
D-8	SR-99 NB	Ming Ave Off	450	1,900	No	20.4	С	0.599	51.2	71.1	59.6
D-9	SR-99 NB	SR-58 Off	1,601	2,200	No	30.0	D	0.312	57.8	71.3	62.4
D-10	SR-99 NB	California Ave Off	757	2,100	No	27.0	С	0.366	56.6	70.1	62.4
D-11	SR-99 NB	Rosedale Hwy Off	2,014	2,100	No	34.3	D	0.479	54.0	71.1	59.2
D-12	SR-99 NB	Buck Owens Blvd Off	364	1,900	No	18.9	В	0.591	51.4	71.3	59.9
D-13	SR-99 NB	Airport Dr Off	1,404	2,100	No	23.8	С	0.424	55.2	71.3	60.3
D-14	SR-99 SB	Rosedale Hwy Off	719	2,100	No	28.5	D	0.363	56.7	69.5	62.4
D-15	SR-99 SB	California Ave Off	1,122	2,100	No	37.1	Ε	0.399	55.8	68.0	61.1
D-16	SR-99 SB	SR-58 Off	2,226	2,200	Yes	-	F	0.368	56.5	69.5	61.0
D-17	SR-99 SB	Ming Ave Off	1,739	2,100	No	36.2	E	0.454	54.5	69.7	60.0
D-18	SR-99 SB	White Ln Off	2,340	4,100	No	24.7	С	0.509	53.3	67.9	57.3

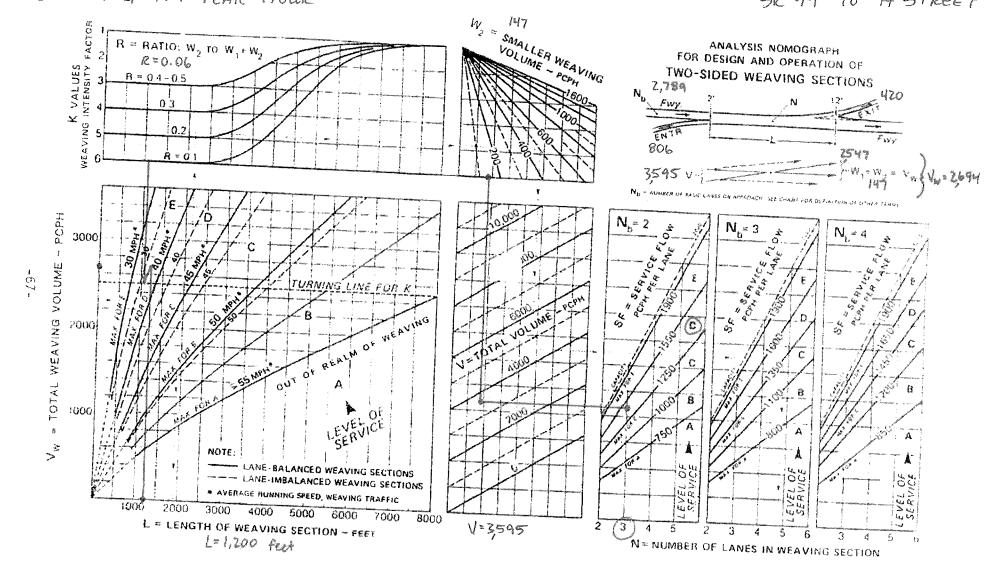
# **ATTACHMENT 3 – LEISCH METHOD CALCULATIONS**

		e e	



NOMOGRAPH FOR DESIGN AND ANALYSIS OF WEAVING SECTIONS—TWO-SIDED CONFIGURATIONS

NOMOGRAPH 2



NOMOGRAPH FOR DESIGN AND ANALYSIS OF WEAVING SECTIONS—TWO-SIDED CONFIGURATIONS

NOMOGRAPH 2

# <u>ATTACHMENT 4 – HCS+ SAMPLE RESULTS</u>

Phone: E-mail: Fax:

E-mail:			
O	perational Ana	lysis	
7 - 1			
Analyst: BP			
	hr & Peers		
	21/2010		
Analysis Time Period: AM			
2	-58 Eastbound		
		o Union Avenue	
	kersfield		
	isting		
Description: Centennial Co	orridor Study		
F	low Inputs and	Adjustments	- Annual Control of the Control of t
Volume, V		3618	veh/h
Peak-hour factor, PHF		0.92	/
Peak 15-min volume, v15		983	V
Trucks and buses		10	v 90
Recreational vehicles		0	0 0/0
Terrain type:		Level	0
Grade		0.00	<b>ે</b>
Segment length		0.00	mi
Trucks and buses PCE, ET		1.5	ШТ
Recreational vehicle PCE, 1	Z D	1.2	
Heavy vehicle adjustment, :		·	
<del>-</del>		0.952	
Driver population factor, :	rÞ	1.00	
Flow rate, vp		2065	pc/h/ln
S1	peed Inputs an	d Adjustments	
Lane width		12.0	ft
Right-shoulder lateral clea	arance	6.0	ft
Interchange density		0.50	interchange/mi
Number of lanes, N		2	ge,
Free-flow speed:		Measured	
FFS or BFFS		65.0	mi/h
Lane width adjustment, fLW		0.0	mi/h
Lateral clearance adjustmen	nt. flC	0.0	mi/h
Interchange density adjustr	•	0.0	mi/h
Number of lanes adjustment,		4.5	mi/h
Free-flow speed, FFS	, 111	65.0	mi/h
rice from Speed, 113		Urban Freeway	1111/11
L(	OS and Perform	ance Measures	
Flow rate, vp		2065	pc/h/ln
Free-flow speed, FFS		65.0	mi/h
Average passenger-car speed	i, S	60.3	mi/h
Number of lanes, N Density, D		2 34.3	pc/mi/ln

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: E-mail: Fax:

Merge	Analysis
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Analyst: BP

Agency/Co.: Fehr & Peers
Date performed: 4/21/2010
Analysis time period: AM Peak Hour
Freeway/Dir of Travel: SR-58 Westbound

Junction: H Street
Jurisdiction: Bakersfield
Analysis Year: Existing

Description: Centennial Corridor Study

•	7 20			_ T	<b>^</b> - 4	
	4 Y	00		7 1	121	
		$\sim$	:way	/ _	$-\alpha$	u.

Type of analysis Number of lanes in freeway	Merge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2622	vph

On Ramp Data\_\_\_\_\_

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	45.0	mph
Volume on ramp	333	vph
Length of first accel/decel lane	540	ft
Length of second accel/decel lane		ft

\_\_\_\_\_Adjacent Ramp Data (if one exists)\_\_\_\_\_

Does adjacent ramp exist? No Volume on adjacent Ramp

Position of adjacent Ramp Type of adjacent Ramp

Distance to adjacent Ramp

vph

ft

_Conversion	to	pc/h	Under	Base	Conditions_
		-			-

Junction Components	Freeway	Ramp	Adjacen	t
			Ramp	
Volume, V (vph)	2622	333		vph
Peak-hour factor, PHF	0.88	0.90		
Peak 15-min volume, v15	745	93		v
Trucks and buses	15	4		ક
Recreational vehicles	0	0		용
Terrain type:	Level	Level		
Grade	용		%	9
Length	mi		mi	mi
Trucks and buses PCE, ET	1.5*	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

```
Flow rate, vp
                                   3203
                                              377
                                                                  pcph
                _____Estimation of V12 Merge Areas___
                              (Equation 25-2 or 25-3)
                 ΕQ
                P =
                      1.000 Using Equation 0
                 FM
                v = v (P) = 3203 pc/h
                 12 F FM
                        ____Capacity Checks___
                        Actual
                                    Maximum
                                                   LOS F?
                        3580
                                     4700
                                                   No
     FO
                       0 pc/h (Equation 25-4 or 25-5)
     3 or av34
                > 2700 pc/h?
Ιs
    v v
                                    No
    3 or av34
                > 1.5 v /2
Ιs
    v v
                                     No
     3 or av34
                     12
If yes, v = 3203
                                     (Equation 25-8)
       12A
                    __Flow Entering Merge Influence Area__
                   Actual
                               Max Desirable
                                                    Violation?
                    3203
                                4600
    V
                                                    No
     R12
            ____Level of Service Determination (if not F)____
Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 29.8 pc/mi/ln
                                     1.2
Level of service for ramp-freeway junction areas of influence D
                   _____Speed Estimation___
Intermediate speed variable,
                                        M = 0.412
                                         S
Space mean speed in ramp influence area,
                                         S = 55.5
                                                    mph
                                         R
Space mean speed in outer lanes,
                                        S = N/A
                                                    mph
```

0

S = 55.5

mph

0.930

1.00

0.980

1.00

Heavy vehicle adjustment, fHV

Space mean speed for all vehicles,

Driver population factor, fP

Phone: E-mail: Fax:

\_\_\_\_\_Diverge Analysis\_\_\_\_\_\_

Analyst: BP

Agency/Co.: Fehr & Peers
Date performed: 4/21/2010
Analysis time period: AM Peak Hour
Freeway/Dir of Travel: SR-58 Eastbound
Junction: Union Avenue
Jurisdiction: Bakersfield
Analysis Year: Existing

Description: Centennial Corridor Study

Freewav	Data
---------	------

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3618	vph

\_\_\_\_Off Ramp Data\_\_\_\_\_

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	821	vph
Length of first accel/decel lane	140	ft
Length of second accel/decel lane		ft

\_\_\_\_\_Adjacent Ramp Data (if one exists)\_\_\_\_\_

Does adjacent ramp exist?
Volume on adjacent ramp
Position of adjacent ramp
Type of adjacent ramp

Distance to adjacent ramp

vph

-

ft

\_\_\_\_\_\_Conversion to pc/h Under Base Conditions\_\_\_\_\_

 $N \circ$ 

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	3618	821	vph
Peak-hour factor, PHF	0.92	0.90	
Peak 15-min volume, v15	983	228	v
Trucks and buses	10	4	양
Recreational vehicles	0	0	왕
Terrain type:	Leve1	Level	
Grade	0.00 %	0.00 %	용
Length	0.00 mi	0.00 mi	mi
Trucks and buses PCE, ET	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	

```
Heavy vehicle adjustment, fHV
                                   0.952
                                              0.980
Driver population factor, fP
                                   1.00
                                              1.00
Flow rate, vp
                                   4129
                                              930
                                                                  pcph
                _____Estimation of V12 Diverge Areas___
                              (Equation 25-8 or 25-9)
                 ΕQ
                P =
                      1.000 Using Equation 0
                 FD
                v = v + (v - v) P = 4129 pc/h
                 12 R
                         F R FD
                        ____Capacity Checks___
                        Actual
                                     Maximum
                                                   LOS F?
    v = v
                        4129
                                     4700
                                                   N \circ
     Fi F
    v = v - v
                        3199
                                     4700
                                                   No
        F R
     FΟ
                        930
                                     2100
    V
                                                   No
     R
                        0 pc/h
                                  (Equation 25-15 or 25-16)
     3 or av34
                > 2700 pc/h?
Ιs
                                    N \circ
    v v
     3 or av34
        V
Ts
                > 1.5 v /2
                                    No
     3 or av34
                   12
If yes, v = 4129
                                     (Equation 25-18)
       12A
                   _Flow Entering Diverge Influence Area_____
                   Actual Max Desirable
                                                    Violation?
                    4129
                                4400
    V
              __Level of Service Determination (if not F)_____
                    D = 4.252 + 0.0086 v - 0.009 L = 38.5 pc/mi/ln
Density,
                                      12
                     R
                                                D
Level of service for ramp-freeway junction areas of influence {\tt E}
              _____Speed Estimation____
```

D = 0.382

S = 56.2

S = N/A

S = 56.2

mph

mph

mph

S

R

0

Intermediate speed variable,

Space mean speed in outer lanes,

Space mean speed for all vehicles,

Space mean speed in ramp influence area,



## **TECHNICAL MEMORANDUM**

Date:

April 22, 2010

To:

Steve McDonald and Koko Widyatmoko, Caltrans

Curt Hatton, Caltrans Project Manager Ravi Puttagunta, TRIP PMC (Parsons)

Doug Slakey / Bruce Tafoya, TRIP Corridor Manager

Mike Kraman, Jim Billings, Luis Porrello, and Traci Gleason, HNTB

From:

Mike Beattie, Bill Penney, and Fred Choa, Fehr & Peers

Subject:

Centennial Corridor - Existing Conditions Analysis Results

Updated Based on TRIP/Caltrans Comments

RS08-2569

The purpose of this technical memorandum is to present the existing conditions freeway analysis results for the Centennial Corridor Project. Based on comments received on the December 4, 2009, technical memorandum, we have updated the peak hour factors and volumes. It should be noted that the truck percentages and lanes are consistent with the previous submittal.

#### **ANALYSIS METHODOLOGY**

The freeway study area includes State Route (SR) 99 from south of White Lane to north of Airport Road and SR 58 from SR 99 to east of Union Avenue (SR 204). Using the method described in the *Highway Capacity Manual* (pages 22-4 and 22-5), the freeway segments were divided into basic, merge, diverge, and weave analysis locations. We have analyzed the freeway basic, merge, and diverge sections according to the procedures in the *Highway Capacity Manual*. For weave sections, we used the Leisch Method as specified in Section 504.7 of the *Highway Design Manual*.

Under existing conditions, the traffic volumes, peak hour factors, and truck percentages are based on field collected data. Distances for acceleration lanes (merge), deceleration lanes (diverge), and weaving lengths (weave) were determined from aerial photographs. For weave sections, the weaving volumes were developed using select link volumes from the KernCOG regional Travel Demand Forecasting (TDF) model. Figure 1 shows the freeway lane configurations under existing conditions, and Figure 2 shows the existing conditions traffic volumes.

The *Highway Capacity Manual* equations for freeway basic, merge, and diverge section analysis were incorporated in an Excel spreadsheet for ease of data entry and comparison among multiple locations. For comparison, we have provided HCS+ software results for three study locations in Attachment 3 (i.e. one basic, one merge, and one diverge section).

The only weave section under existing conditions is eastbound SR 58 between SR 99 and H Street. This segment is a "two-sided" weave. That is, the ramp from Real Road functions as a left-side on-ramp, and the H Street off-ramp is on the right side. So, traffic from Real Road exiting to H Street must weave across the mainline. The Leisch Method for a two-sided weave section is described in *Procedure for Analysis and Design of Weaving Sections* (Jack E. Leisch,



October 1985), which also describes the one-sided weave analysis method presented in the Highway Design Manual.

#### **EXISTING TRAFFIC VOLUMES**

The traffic counts for the majority of the freeway analysis locations were collected on October 28, 2008. The exceptions are the southbound SR 99 ramps at Ming Avenue (PM only), southbound SR 99 on-ramp at Airport Drive, and the Rosedale Highway/Buck Owens Boulevard interchange ramps. The first two locations were counted after October 28, 2008 due to problems with the counting equipment. The last location uses data collected for the Rosedale Widening project on November 6 and 8, 2007.

The peak hour volumes used in the analysis of each ramp were determined by the peak hour at each individual ramp. The peak hour ramp volumes were used to balance the mainline volumes between interchanges.

The SR 58 mainline was counted between Real Road and SR 99. The SR 99 mainline was counted between Ming Avenue and SR 58. For both of these mainline segments, the morning peak hour started at 7:15 AM and the afternoon peak hour started at 4:45 PM. The freeway mainline volumes between other interchanges were calculated by adding and/or subtracting the peak hour volumes at the on-ramps and off-ramps as described in the previous paragraph.

Peak hour factors (PHF) were calculated for each ramp and the mainline segment between interchanges. The PHF calculation was based on the following volume thresholds documented on page 5-4 of the Synchro 6 User Guide:

- Volume approach is greater than 2,000 vehicles per hour, PHF = 0.95
- Volume approach is between 1,000 to 2,000 vehicles per hour, PHF = 0.93
- Volume approach is between 500 to 1,000 vehicles per hour, PHF = 0.92
- Volume approach is between 200 to 500 vehicles per hour, PHF = 0.87
- Volume approach is between 100 to 200 vehicles per hour, PHF = 0.83
- Volume approach is between 1 to 100 vehicles per hour, PHF = 0.78

Truck volumes were collected at all locations counted in 2008. For the purposes of the counts, trucks were considered to be all heavy vehicles with two or more axles including delivery vans, buses, and recreational vehicles. For the Rosedale Highway intersections, the truck volumes assumed for the Rosedale Widening intersection analysis were used. Truck percentages were calculated as the truck volume divided by total volume.

#### **EXISTING CONDITIONS ANALYSIS RESULTS**

Tables 1 through 4 below present the freeway analysis results for the study area under existing conditions. Attachment 1 lists the HCM basic, merge, and diverge calculations, and Attachment 2 provides the Leisch weave calculations.

For eastbound SR 58 (see Table 1), the section between Chester Avenue and Union Avenue generally has the highest peak hour volumes in the study area. As a result, the density is the highest in this section. During both the AM and PM peak hours, the Union Avenue off-ramp in this section operates at LOS E. All other analysis locations operate at LOS D during both the AM and PM peak hours, except for the basic mainline section between the Union Avenue off- and on-ramps which operates at LOS C during the AM peak hour.



Table 1 - Freeway Mainline and Ramp Junction Level of Service	
Existing Conditions: SR 58 Eastbound	

				AM Peak Hour PM Peak H					AM Peak Hour PM	PM Peak Ho	our
Location	Lanes	Туре	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	LOS	Density <sup>1</sup>	Speed <sup>1</sup>			
SR-99 to H St	3	Weave <sup>2</sup>	D	-	-	D	_	_			
H St Off-ramp to Chester Ave On-ramp	2	Basic	D	29.0	63.5	D	27.0	64.3			
Chester Ave On-ramp	2	Merge	D	34.9	52.5	D	33.8	53.3			
Chester Ave to Union Ave	2	Basic	D	34.3	60.3	D	33.7	60.7			
Union Ave Off-ramp	2	Diverge	E	38.5	56.2	E	38.1	56.8			
Union Ave Off-ramp to On-ramp	2	Basic	С	24.7	64.9	D	27.4	64.2			
Union Ave SB On-ramp	2	Merge	D	29.1	55.4	D	31.8	54.3			
Union Ave NB On-ramp	2	Merge	D	30.5	55.3	D	33.5	53.6			
Union Ave to Cottonwood Rd	2	Basic	D	28.1	63.9	D	33.2	61.0			

- Density is reported in vehicles per lane per mile, and speed is reported in miles per hour. Both were calculated per Highway Capacity Manual 2000.
- Weave section analysis was performed using the Leisch Method, which does not provide density or speed estimates.

Source: Fehr & Peers, 2010.

For westbound SR 58 (see Table 2), all locations operate at LOS D or better except at the Brundage Lane off-ramp (AM peak hour) and Chester Avenue off-ramp (AM and PM peak hour) which operate at LOS E.



Table 2 – Freeway Mainline and Ramp Junction Level of Service	è
Existing Conditions: SR 58 Westbound	

				AM Peak Hour			PM Peak Hour		
Location	Lanes	Туре	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	
Cottonwood Rd to Union Ave	2	Basic	D	30.4	62.8	D	26.9	64.4	
Brundage Ln Off-ramp	2	Diverge	Е	35.7	50.9	٥	32.7	51.3	
Brundage Ln Off-ramp to On-ramp	2	Basic	С	24.8	64.9	С	23.6	65.0	
Brundage Ln On-ramp	2	Merge	D	29.4	55.3	D	28.5	55.6	
Union Ave SB On-ramp	2	Merge	D	31.3	54.4	D	31.0	54.5	
Chester Ave Off-ramp	2	Diverge	E	35.2	57.0	E	35.0	57.1	
Chester Ave Off-ramp to H St On-ramp	2	Basic	С	24.7	64.9	С	24.8	64.9	
H St On-ramp	2	Merge	D	29.8	55.5	D	31.0	55.0	
H St to SR-99	2	Basic	D	27.9	64.0	D	29.4	63.3	
SR-99 NB Off-ramp	2	Diverge	D	33.6	58.2	D	34.8	58.4	
SR-99 NB Off-ramp to SB Off-ramp	2	Basic	В	17.0	65.0	С	18.6	65.0	
SR-99 SB Off-ramp	2	Diverge	С	22.2	49.9	С	24.1	49.5	

Source: Fehr & Peers, 2010.

The majority of analysis locations on northbound SR 99 operate at LOS C or better (see Table 3). The following seven locations operate at LOS D.

- White Lane to Ming Avenue (AM peak hour)
- Ming Avenue on-ramp (AM peak hour)
- SR 58 off-ramp (PM peak hour)
- SR 58 on-ramp (AM peak hour)
- SR 58 to California Avenue (AM Peak Hour)
- California Avenue to Rosedale Highway (AM peak hour)
- Rosedale Highway off-ramp (PM peak hour)

In addition, five locations operate at LOS E or F during the AM and PM peak hour:

- White Lane eastbound on-ramp (AM peak hour)
- White Lane westbound on-ramp (AM peak hour)
- SR 58 off-ramp (AM peak hour)
- California Avenue off-ramp (AM peak hour)
- Rosedale Highway off-ramp (AM peak hour)

Density is reported in vehicles per lane per mile, and speed is reported in miles per hour. Both were calculated per Highway Capacity Manual 2000.



Table 3 – Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR 99 Northbound

		Туре	AM Peak Hour			PM Peak Hour		
Location	Lanes		LOS	Density <sup>1</sup>	Speed <sup>1</sup>	LOS	Density <sup>1</sup>	Speed <sup>1</sup>
Panama Ln to White Ln	3	Basic	С	21.9	65.0	В	15.1	65.0
White Ln Off-ramp	3	Diverge	С	27.3	61.2	С	21.0	60.8
White Ln Off-ramp to On- ramp	3	Basic	С	20.6	65.0	В	13.1	65.0
White Ln EB On-ramp	3	Merge	Е	35.6	53.9	С	25.0	58.1
White Ln WB On-ramp	3	Merge	E	35.3	54.0	С	23.9	58.6
White Ln to Ming Ave	3	Basic	D	34.9.	59.8	С	21.5	65.0
Ming Ave Off-ramp	4	Diverge	С	27.6	59.4	С	20.4	59.6
Ming Ave Off-ramp to On- ramp	4	Basic	С	22.8	65.0	В	14.6	65.0
Ming Ave On-ramp	4	Merge	D	31.2	57.3	С	24.0	59.5
SR-58 Off-ramp	4	Diverge	Е	40.6	61.4	D	30.0	62.4
SR-58 Off-ramp to Wible Rd On-ramp	4	Basic	С	21.0	65.0	В	13.6	65.0
Wible Rd On-ramp	4	Merge	С	23.3	59.0	В	17.7	60.2
SR-58 On-ramp	4	Merge	D	31.1	57.4	С	24.8	59.4
SR-58 to California Ave	4	Basic	D	28.8	63.6	Ç	20.9	65.0
California Ave Off-ramp	4	Diverge	Е	36.7	60.9	С	27.0	62.4
California Ave Off-ramp to On-ramp	4	Basic	С	23.4	65.0	В	18.0	65.0
California Ave EB On-ramp	4	Merge	С	25.3	58.5	C	22.2	59.4
California Ave WB On- ramp	4	Merge	С	24.8	58.5	С	21.4	59.5
California Ave to Rosedale Hwy	4	Basic	D	26.5	64.5	С	22.1	65.0
Rosedale Hwy Off-ramp	4	Diverge	E	38.2	59.5	D	34.3	59.2
Buck Owens Blvd Off-ramp	4	Diverge	С	26.3	57.7	В	18.9	59.9
Buck Owens Blvd Off-ramp to On-ramp	4	Basic	В	16.5	65.0	В	13.6	65.0
Buck Owens Blvd On-ramp	4	Merge	В	18.6	60.0	В	17.8	60.2
Airport Dr Off-ramp	4	Diverge	С	27.9	59.2	С	23.8	60.3
Airport Dr to Golden State Ave	3	Basic	В	14.4	65.0	В	14.2	65.0

Source: Fehr & Peers, 2010.

Density is reported in vehicles per lane per mile, and speed is reported in miles per hour. Both were calculated per Highway Capacity Manual 2000.



The majority of analysis locations on southbound SR 99 operate at LOS C or better (see Table 4). The following locations operate at LOS D.

- Airport Drive on-ramp (PM peak hour)
- Rosedale Highway off-ramp (PM peak hour)
- Rosedale Highway westbound on-ramp (PM peak hour)
- Rosedale Highway eastbound on-ramp (PM peak hour)
- Rosedale Highway to California Avenue (PM peak hour)
- California Avenue off-ramp (AM peak hour)
- California Avenue on-ramp (PM peak hour)
- California Avenue to SR 58 (PM peak hour)
- SR 58 off-ramp (AM peak hour)
- Ming Avenue to White Lane (PM peak hour)

In addition, the PM peak hour has three locations with LOS E or F conditions. The California Avenue off-ramp and the Ming Avenue off-ramp operate at LOS E due to high mainline and ramp volumes. The SR 58 off-ramp operates at LOS F because both the off-ramp volume and the mainline volume in the right two lanes exceed their capacity. The PM peak hour field observations found slower free-flow speeds at the, California Avenue off-ramp and SR 58 off-ramp. Additionally, traffic was observed to be queued onto the auxiliary lane at the White Lane off-ramp. This latter observation is not reflected in the analysis results since arterial operations on White Lane cause the queues.



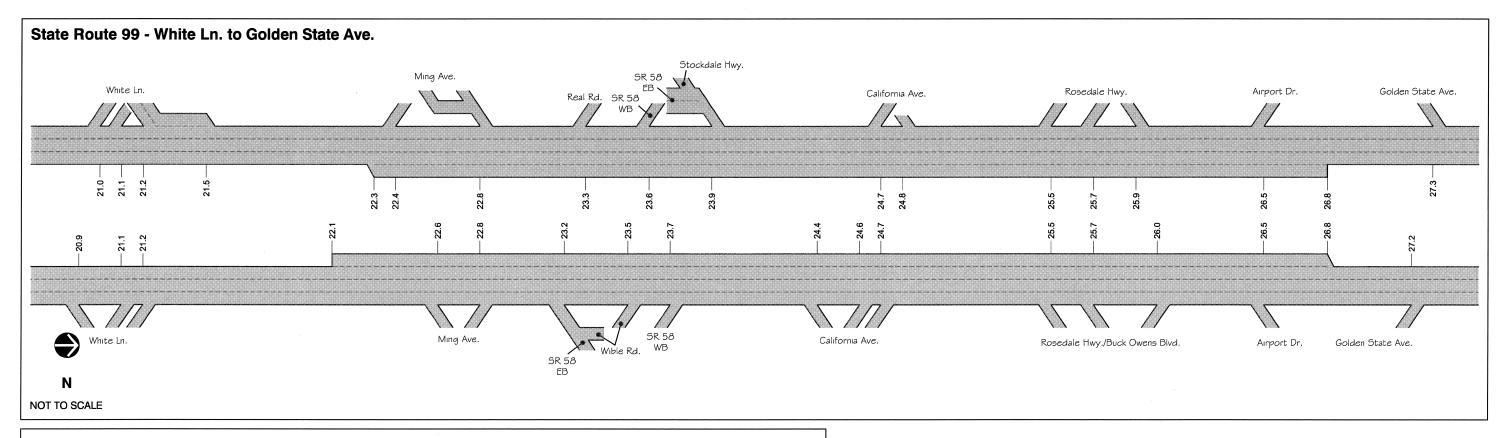
Table 4 – Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR 99 Southbound

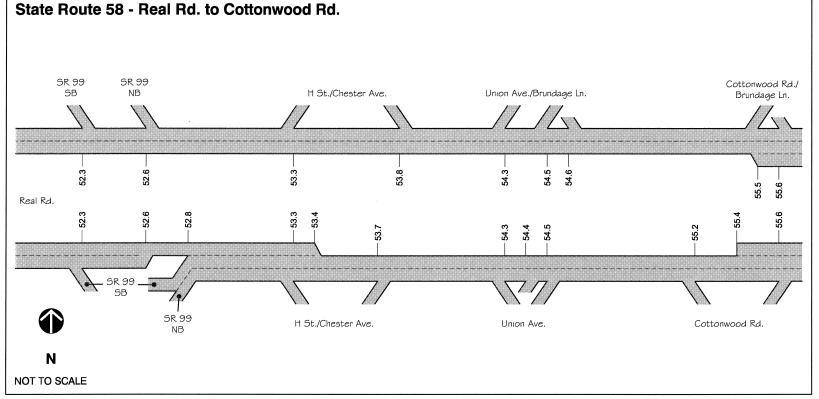
Existing Conditions. SIX 33 Couthbound								
_	<u> </u>	AM Peak Hour			our	PM Peak Hour		
Location	Lanes	Туре	LOS	Density <sup>1</sup>	Speed <sup>1</sup>	LOS	Density <sup>1</sup>	Speed <sup>1</sup>
Golden State Ave to Airport Dr	3	Basic	С	19.8	65.0	С	19.7	65.0
Airport Dr On-ramp	4	Merge	С	23.9	59.5	D	29.2	58.1
Airport Dr to Rosedale Hwy	4	Basic	С	19.4	65.0	C.	22.6	65.0
Rosedale Hwy Off-ramp	4	Diverge	С	25.4	62.6	D	28.5	62.4
Rosedale Hwy Off-ramp to On-ramp	4	Basic	В	16.7	65.0	С	19.7	65.0
Rosedale Hwy WB On- ramp	4	Merge	С	21.9	59.5	D	28.9	57.9
Rosedale Hwy EB On-ramp	4	Merge	С	25.9	58.9	D	32.4	56.6
Rosedale Hwy to California Ave	4	Basic	С	23.4	65.0	D	30.5	62.7
California Ave Off-ramp	4	Diverge	D	31.8	61.2	Е	37.1	61.1
California Ave Off-ramp to On-ramp	4	Basic	C	18.7	65.0	С	25.2	64.8
California Ave On-ramp	4	Merge	С	20.4	59.6	D	29.9	57.4
California Ave to SR-58	4	Basic	С	20.0	65.0	D	29.4	63.3
SR-58 Off-ramp	4	Diverge	D	31.0	61.9	F	-	-
SR-58 Off-ramp to On- ramp	4	Basic	В	13.2	65.0	С	20.1	65.0
SR-58 On-ramp	4	Merge	С	20.5	59.8	С	27.3	58.2
Real Rd On-ramp	4	Merge	В	18.3	60.1	С	24.6	58.6
Ming Ave Off-ramp	4	Diverge	С	24.7	62.1	E	36.2	60.0
Ming Ave Off-ramp to On- ramp	4	Basic	В	14.8	65.0	С	19.5	65.0
Ming Ave On-ramp	3	Merge	С	22.0	58.9	D	29.3	57.0
Ming Ave to White Ln	3	Basic	С	21.4	65.0	D	30.6	62.6
White Ln Off-ramp	3	Diverge	В	15.1	59.1	С	24.7	57.3
White Ln On-ramp to Off- ramp	3	Basic	В	13.5	65.0	В	17.7	65.0
White Ln WB On-ramp	3	Merge	В	16.1	59.6	С	20.1	58.9
White Ln EB On-ramp	. 3	Merge	В	16.2	59.8	С	20.0	59.2
White Ln to Panama Ln	3	Basic	В	14.7	65.0	С	19.1	65.0

Source: Fehr & Peers, 2010.

Density is reported in vehicles per lane per mile, and speed is reported in miles per hour. Both were calculated per Highway Capacity Manual 2000.

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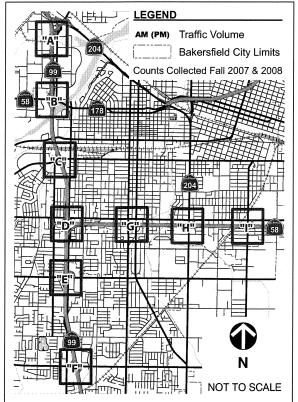


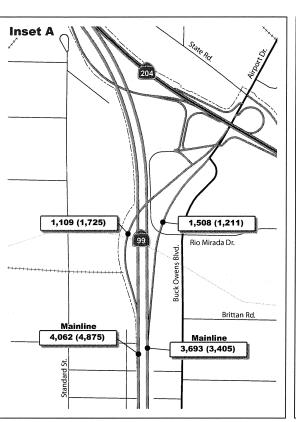
LEGEND

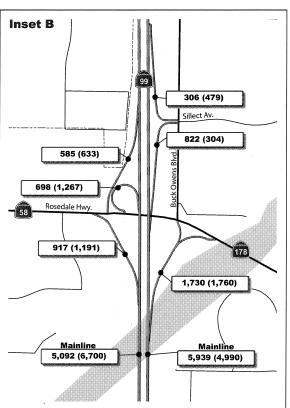
6.0 Post-mile

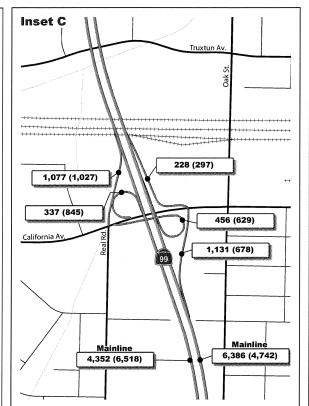
FEHR & PEERS TRANSPORTATION CONSULTANTS

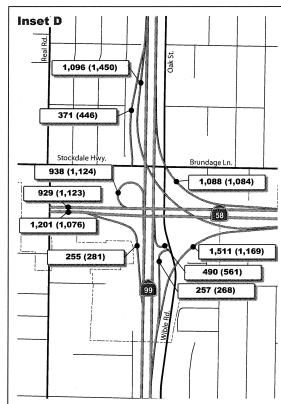
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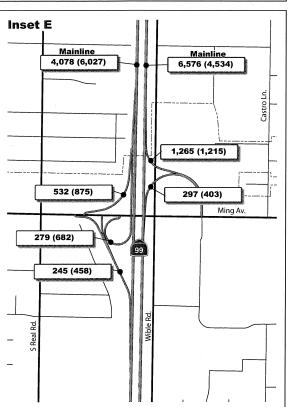


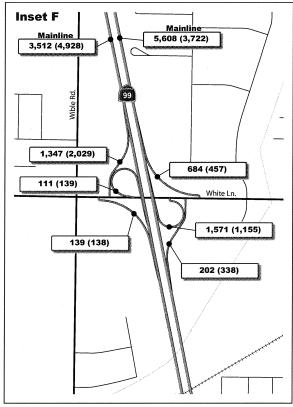


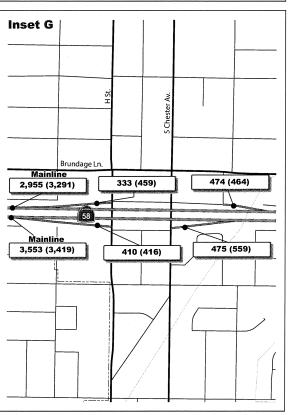


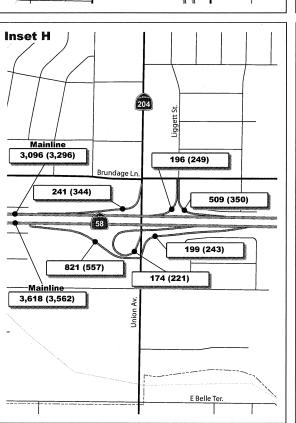


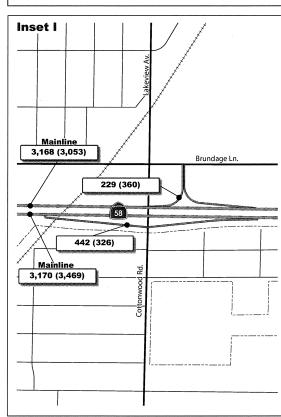














FEHR & PEERS

## **ATTACHMENT 1 - HCM CALCULATIONS**

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HCM 2000 Basic Freeway Segments Capacity Analysis Jurisdiction Bakersfield, CA
Analysis Year Existing (2008)
Analyst BP
Agency or Company TRIP
Date 3.3.10
Project Description Centennial Corridor Study

Genera	Information			Flow Rate C	alculatio	n									Speed Calcul	lation	Results	
	Freeway/		Analysis	Volume				Truck/						Flow Rate	Measured	S	Density, D	Level of
	Direction	From/To	Time Period	(vph)	PHF	Lanes	Terrain	Bus %	RV %	Ε <sub>T</sub>	ER	f <sub>HV</sub>	f₽	v <sub>p</sub> (pcphpl)	FFS (mph)	(mph)	(pcplpm)	Service
B-2	SR-58 EB	H St Off to Chester Ave On	AM	3,143	0.90	2	Level	11%	0%	1.5	1.2	0.948	1.00	1,842	65.0	63.5	29.0	Q
B-3	SR-58 EB	Chester Ave to Union Ave	AM	3,618	0.92	2	Level	10%	0%	1.5	1.2	0.952	1.00	2,065	65.0	60.3	34.3	D
B-4	SR-58 EB	Union Ave Off to On	AM	2,797	0.92	2	Level	11%	0%	1.5	1.2	0.948	1.00	1,604	65.0	64.9	24.7	C
B-5	SR-58 EB	Union Ave to Cottonwood Rd	AM	3,170	0.93	2	Level	11%	0%	1.5	1.2	0.948	1.00	1,798	65.0	63.9	28.1	D
B-6	<b>SR-58 WB</b>	Cottonwood Rd to Union Ave	AM	3,168	0.88	2	Level	12%	0%	1.5	1.2	0.943	1.00	1,908	65.0	62.8	30.4	D
B-7	SR-58 WB	Brundage Ln Off to On	AM	2,659	0.88	2	Level	13%	0%	1.5	1.2	0.939	1.00	1,609	65.0	64.9	24.8	С
B-8	<b>SR-58 WB</b>	Chester Ave Off to H St On	AM	2,622	0.88	2	Level	15%	0%	1.5	1.2	0.930	1.00	1,602	65.0	64.9	24.7	С
B-9	<b>SR-58 WB</b>	H St to SR-99	AM	2,955	0.88	2	Level	13%	0%	1.5	1.2	0.939	1.00	1,788	65.0	64.0	27.9	D
B-10	<b>SR-58 WB</b>	SR-99 NB Off to SB Off	AM	1,867	0.88	2	Level	8%	0%	1.5	1.2	0.962	1.00	1,103	65.0	65.0	17.0	8
B-11	SR-99 NB	Panama Ln to White Ln	AM	3,555	0.88	3	Level	11%	0%	1.5	1.2	0.948	1.00	1,421	65.0	65.0	21.9	C
B-12	SR-99 NB	White Ln Off to On	AM	3,353	0.88	3	Level	11%	0%	1.5	1.2	0.948	1.00	1,340	65.0	65.0	20.6	C
B-13	SR-99 NB	White Ln to Ming Ave	AM	5,608	0.94	3	Level	10%	0%	1.5	1.2	0.952	1.00	2,088	65.0	59.8	34.9	D
B-14	SR-99 NB	Ming Ave Off to On	AM	5,311	0.94	4	Level	10%	0%	1.5	1.2	0.952	1.00	1,483	65.0	65.0	22.8	C
B-15		SR-58 Off to Wible On	AM	4,808	0.92	4	Level	9%	0%	1.5	1.2	0.957	1.00	1,365	65.0	65.0	21.0	C
B-16	SR-99 NB	SR-58 to California Ave	АМ	6,386	0.92	4	Level	11%	0%	1.5	1.2	0.948	1.00	1,831	65.0	63.6	28.8	· D
B-17	SR-99 NB	California Ave Off to On	AM	5,255	0.92	4	Level	13%	0%	1.5	1.2	0.939	1.00	1,521	65.0	65.0	23.4	C
B-18		California Ave to Rosedale Hwy	AM	5,939	0.92	4	Level	12%	0%	1.5	1.2	0.943	1.00	1,711	65.0	64.5	26.5	D
B-19	SR-99 NB	Buck Owens Blvd Off to On	AM	3,387	0.86	4	Level	18%	0%	1.5	1.2	0.917	1.00	1,073	65.0	65.0	16.5	B
B-20	SR-99 NB	Airport Dr Off to Golden State Blvd On	AM	2,185	0.88	3	Level	26%	0%	1.5	1.2	0.885	1.00	935	65.0	65.0	14.4	В
B-21	SR-99 SB	Golden State Ave Off to Airport Dr On	AM	2,953	0.83	3	Level	17%	0%	1.5	1.2	0.922	1.00	1,287	65.0	65.0	19.8	С
B-22	SR-99 SB	Airport Dr to Rosedale Hwy	AM	4,062	0.86	4	Level	14%	0%	1.5	1.2	0.935	1.00	1,263	65.0	65.0	19.4	С
B-23	SR-99 SB	Rosedale Hwy Off to On	AM	3,477	0.86	4	Level	15%	0%	1.5	1.2	0.930	1.00	1,087	65.0	65.0	16.7	B
B-24	SR-99 SB	Rosedale Hwy to California Ave	AM	5,092	0.89	4	Level	13%	0%	1.5	1.2	0.939	1.00	1,523	65.0	65.0	23.4	С
B-25		California Ave Off to On	AM	4,015	0.89	4	Level	15%	0%	1.5	1.2	0.930	1.00	1,212	65.0	65.0	18.7	C
B-26	SR-99 SB	California Ave to SR-58	AM	4,352	0.90	4	Level	15%	0%	1.5	1.2	0.930	1.00	1,300	65.0	65.0	20.0	С
B-27	SR-99 SB	SR-58 Off to On	AM	2,885	0.90	4	Level	14%	0%	1.5	1.2	0.935	1.00	857	65.0	65.0	13.2	B
B-28	SR-99 SB	Ming Ave Off to On	AM	3,267	0.91	4	Level	15%	0%	1.5	1.2	0.930	1.00	965	65.0	65.0	14.8	8
B-29	SR-99 SB	Ming Ave to White Ln	AM	3,512	0.90	3	Level	14%	0%	1.5	1.2	0.935	1.00	1,392	65.0	65.0	21.4	C
B-30	SR-99 SB	White Ln Off to On	AM	2,165	0.90	3	Level	19%	0%	1.5	1.2	0.913	1.00	878	65.0	65.0	13.5	В
B-31	SR-99 SB	White Ln to Panama Ln	AM	2,415	0.92	3	Level	18%	0%	1.5	1.2	0.917	1.00	954	65.0	65.0	14.7	В

HCM 2000 Merge Ramp Junctions Capacity Analysis Jurisdiction Bakersfield, CA
Analysis Year Existing (2008)
Analyst BP

Agency or Company TRIP
Date 3.3.10
Project Description Centennial Corridor Study

Gener	ral Informatio	n		Freeway	Data Data		Freeway	Volume Adji	ustment						
	Freeway/	4000	Analysis		S <sub>FF</sub>	٧			Truck/						Flow Rate
	Direction	On-ramp	Time Period	Lanes	(mph)	(vph)	PHF	Terrain	Bus %	RV %	Eτ	ER	$f_{HV}$	f <sub>P</sub>	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	AM	2	65.0	3,143	0.90	Level	11%	0%	1.5	1.20	0.948	1.00	3,684
M-2	SR-58 EB	Union Ave SB On	AM	2	65.0	2,797	0.92	Level	11%	0%	1.5	1.20	0.948	1.00	3,207
M-3	SR-58 EB	Union Ave NB On	AM	2	65.0	2,971	0.92	Level	11%	0%	1.5	1.20	0.948	1.00	3,407
M-4	SR-58 WB	Brundage Ln On	AM	2	65.0	2,659	0.88	Level	13%	0%	1.5	1.20	0.939	1.00	3,218
M-5	SR-58 WB	Union Ave SB On	AM	2	65.0	2,855	0.88	Level	13%	0%	1.5	1.20	0.939	1.00	3,455
M-6	SR-58 WB	H St On	AM	2	65.0	2,622	0.88	Level	15%	0%	1.5	1.20	0.930	1.00	3,203
M-7	SR-99 NB	White Ln EB On	AM	3	65.0	3,353	0.88	Level	11%	0%	1.5	1,20	0.948	1.00	4,020
M-8	SR-99 NB	White Ln WB On	AM	3	65.0	4,924	0.88	Level	10%	0%	1.5	1.20	0.952	1.00	5,875
M-9	SR-99 NB	Ming Ave On	AM	4	65.0	5,311	0.94	Level	10%	0%	1.5	1.20	0.952	1.00	5,933
M-10	SR-99 NB	Wible On	AM .	4	65.0	4,808	0.92	Level	9%	0%	1.5	1.20	0.957	1.00	5,461
M-11	SR-99 NB	SR-58 On	AM	4	65.0	5,298	0.92	Level	9%	0%	1.5	1.20	0.957	1.00	6,018
M-12	SR-99 NB	California Ave EB On	AM	4	65.0	5,255	0.92	Level	13%	0%	1.5	1.20	0.939	1.00	6,083
M-13	SR-99 NB	California Ave WB On	AM	4	65.0	5,711	0.92	Level	13%	0%	1.5	1.20	0.939	1.00	6,611
M-14	SR-99 NB	Buck Owens Blvd On	AM	4	65.0	3,387	0.86	Level	18%	0%	1.5	1.20	0.917	1.00	4,293
M-15	SR-99 SB	Airport Dr On	AM	4	65.0	2,953	0.83	Level	17%	0%	1.5	1.20	0.922	1.00	3,860
M-16	SR-99 SB	Rosedale Hwy WB On	AM	4	65.0	3,477	0.86	Level	15%	0%	1.5	1.20	0.930	1.00	4,346
M-17	SR-99 SB	Rosedale Hwy EB On	AM	4	65.0	4,175	0.86	Level	14%	0%	1.5	1.20	0.935	1.00	5,194
M-18	SR-99 SB	California Ave On	AM	4	65.0	4,015	0.89	Level	15%	0%	1.5	1.20	0.930	1.00	4,850
M-19	SR-99 SB	SR-58 On	AM	4	65.0	2,885	0.90	Level	14%	0%	1.5	1.20	0.935	1.00	3,430
M-20	SR-99 SB	Real Rd On	AM	4	65.0	3,823	0.90	Level	13%	0%	1.5	1.20	0.939	1.00	4,524
M-21	SR-99 SB	Ming Ave On	AM	3	65.0	3,267	0.91	Level	15%	0%	1.5	1.20	0.930	1.00	3,859
M-22	SR-99 SB	White Ln WB On	AM	3	65.0	2,165	0.90	Level	19%	0%	1.5	1.20	0.913	1.00	2,634
M-23	SR-99 SB	White Ln EB On	AM	3	65.0	2,276	0,90	Level	19%	0%	1.5	1.20	0.913	1.00	2,769

HCM 2000 Merge Ramp Junctions Capacity Analysis

Genera	al Informatio	n	On-Ran	np Data						On-Ram	p Volume	Adjustment						
	Freeway/				S <sub>FR</sub>	V <sub>R</sub>	Ac	cel Lane	(ft)			Truck/						Flow Rate
	Direction	On-ramp	Туре	Lanes	(mph)	(vph)	LA1	LAZ	$L_{Aeff}$	PHF	Terrain	Bus %	RV %	Eτ	ER	f <sub>HV</sub>	f <sub>P</sub>	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	Right	1	45.0	475	540		540	0.88	Level	4%	0%	1.5	1.2	0.980	1.00	551
M-2	SR-58 EB	Union Ave SB On	Right	1	25.0	174	480		480	0.81	Level	9%	0%	1.5	1.2	0.957	1.00	<b>2</b> 24
M-3	SR-58 EB	Union Ave NB On	Right	1	45.0	199	540		540	0.86	Level	13%	0%	1.5	1.2	0.939	1.00	246
M-4	SR-58 WB	Brundage Ln On	Right	1	25.0	196	480		480	0.82	Level	12%	0%	1.5	1.2	0.943	1.00	253
M-5	<b>SR-58 WB</b>	Union Ave SB On	Right	1	25.0	241	540		540	0.84	Level	10%	0%	1.5	1.2	0.952	1.00	301
M-6	SR-58 WB	H St On	Right	1	45.0	333	540		540	0.90	Level	4%	0%	1.5	1.2	0.980	1.00	377
M-7	SR-99 NB	White Ln EB On	Right	1	25.0	1,571	360		360	0.86	Level	8%	0%	1.5	1.2	0.962	1.00	1,900
8-M	SR-99 NB	White Ln WB On	Right	1	45.0	684	530		530	0.86	Level	6%	0%	1.5	1.2	0.971	1.00	819
M-9	SR-99 NB	Ming Ave On	Right	1	45.0	1,265	560		560	0.88	Level	3%	0%	1.5	1.2	0.985	1.00	1,459
M-10	SR-99 NB	Wible On	Right	1	25.0	490	550		550	0.86	Level	4%	0%	1.5	1.2	0.980	1.00	581
M-11	SR-99 NB	SR-58 On	Right	1	55.0	1,088	560		560	0.86	Level	23%	0%	1.5	1.2	0.897	1.00	1,411
M-12	SR-99 NB	California Ave EB On	Right	1	25.0	456	500		500	0.86	Level	5%	0%	1.5	1.2	0.976	1.00	543
M-13	SR-99 NB	California Ave WB On	Right	1	45.0	228	540		540	0.84	Level	7%	0%	1.5	1.2	0.966	1.00	281
M-14	SR-99 NB	Buck Owens Blvd On	Right	1	25.0	306	500		500	0.84	Level	13%	-0%	1.5	1.2	0.939	1.00	388
M-15	SR-99 SB	Airport Dr On	Right	1	45.0	1,109	500		500	0.88	Level	5%	0%	1.5	1.2	0.976	1.00	1,292
M-16	SR-99 SB	Rosedale Hwy WB On	Right	1	25.0	698	540		540	0.86	Level	10%	0%	1.5	1.2	0.952	1.00	852
M-17	SR-99 SB	Rosedale Hwy EB On	Right	1	45.0	917	630		630	0.86	Level	8%	0%	1.5	1.2	0.962	1.00	1,109
M-18	SR-99 SB	California Ave On	Right	1	25.0	337	490		490	0.88	Level	3%	0%	1,5	1.2	0.985	1.00	389
M-19	SR-99 SB	SR-58 On	Right	1	25.0	938	610		610	0.88	Level	9%	0%	1.5	1.2	0.957	1.00	1,114
M-20	SR-99 SB	Real Rd On	Right	1	45.0	255	540		540	0.89	Level	2%	0%	1.5	1.2	0.990	1.00	289
M-21	SR-99 SB	Ming Ave On	Right	1	45.0	245	550		550	0.88	Level	4%	0%	1.5	1.2	0.980	1.00	284
M-22	SR-99 SB	White Ln WB On	Right	1	25.0	111	390		390	0.87	Level	9%	0%	1.5	1.2	0.957	1.00	133
M-23	SR-99 SB	White Ln EB On	Right	1	45.0	139	520		520	0.87	Level	7%	0%	1.5	1.2	0.966	1.00	165

HCM 2000 Merge Ramp Junctions Capacity Analysis

General Information Adjacent Upstream Ramp Data Freeway/ Volume Truck/ Flow Rate Direction On-ramp Exists? Distance (vph) PHF Terrain Bus % RV % E<sub>T</sub> E<sub>R</sub> f<sub>HV</sub> ν<sub>p</sub> (pcph) SR-58 EB Chester Ave On No SR-58 EB Union Ave SB On No SR-58 EB Union Ave NB On No M-4 SR-58 WB Brundage Ln On No M-5 SR-58 WB Union Ave SB On No M-6 SR-58 WB H St On No SR-99 NB White Ln EB On Off 1,250 202 0.87 Level 1.5 1.2 0.962 1.00 241 SR-99 NB White Ln WB On On 680 1,571 0.86 Level 8% 1.5 1.2 0.962 1.00 1,900 M-9 SR-99 NB Ming Ave On No M-10 SR-99 NB Wible On No M-11 SR-99 NB SR-58 On No M-12 SR-99 NB California Ave EB On No M-13 SR-99 NB California Ave WB On No M-14 SR-99 NB Buck Owens Blvd On No M-15 SR-99 SB Airport Dr On No M-16 SR-99 SB Rosedale Hwy WB On No M-17 SR-99 SB Rosedale Hwy EB On No M-18 SR-99 SB California Ave On No M-19 SR-99 SB SR-58 On No M-20 SR-99 SB Real Rd On No SR-99 SB Ming Ave On Off 2,870 811 0.88 Level 3% 1.5 1.2 0.985 935 1.00 SR-99 SB White Ln WB On Off 1,520 1,347 0.86 Level 5% 0% 1.5 1.2 0.976 1.00 1,605 M-23 SR-99 SB White Ln EB On 600 111 0.87 Level 9% 0% 1.5 1.2 0.957 1.00 133

HCM 2000 Merge Ramp Junctions Capacity Analysis

Gener	al Informatio	n	Adjacent	Downstream	Ramp Da	ıta									v 12 Est	imation					
	Freeway/				Volume			Truck/						Flow Rate	L	EQ	PF	տ Equatio	ons		<b>v</b> <sub>12</sub>
	Direction	On-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	E <sub>T</sub>	ER	f <sub>HV</sub>	f <sub>P</sub>	v <sub>p</sub> (pcph)	25-2	25-3	1	2	3	P <sub>FM</sub>	(pcph)
M-1	SR-58 EB	Chester Ave On	No														0.593			1.000	3,684
M-2	SR-58 EB	Union Ave SB On	No														0.591			1.000	3,207
M-3	SR-58 EB	Union Ave NB On	No														0.593			1.000	3,407
M-4	SR-58 WB	Brundage Ln On	No														0.591			1.000	3,218
M-5	SR-58 WB	Union Ave SB On	No														0.593			1.000	3,455
M-6	SR-58 WB	H St On	No												į		0.593			1.000	3,203
M-7	SR-99 NB	White Ln EB On	On	680	684	0.86	Level	6%	0%	1.5	1.2	0.971	1.00	819	332	5,531	0.588	0.724		0.588	2,362
M-8	SR-99 NB	White Ln WB On	No												1,619		0.592			0.592	3,480
M-9	SR-99 NB	Ming Ave On	No														0.593			0.174	1,033
M-10	SR-99 NB	Wible On	No														0.593			0.390	2,132
M-11	SR-99 NB	SR-58 On	No														0.593			0,155	933
M-12	SR-99 NB	California Ave EB On	No														0.592			0.373	2,268
M-13	SR-99 NB	California Ave WB On	No														0.593			0.316	2,092
M-14	SR-99 NB	Buck Owens Blvd On	No														0.592			0.392	1,684
M-15	SR-99 SB	Airport Dr On	No														0.592			0.180	696
M-16	SR-99 SB	Rosedale Hwy WB On	No														0.593			0.352	1,530
M-17	SR-99 SB	Rosedale Hwy EB On	No												İ		0.595			0.235	1,222
M-18	SR-99 SB	California Ave On	No														0.591			0.388	1,880
M-19	SR-99 SB	SR-58 On	No														0.595			0.351	1,203
M-20	SR-99 SB	Real Rd On	No												[		0.593			0.315	1,427
M-21	SR-99 SB	Ming Ave On	No												1,082		0.593	0.850		0.593	2,288
M-22	SR-99 SB	White Ln WB On	On	600	139	0.87	Level	7%	0%	1.5	1.2	0.966	1.00	165	-330	1,093	0.588	0.784		0.588	1,550
M-23	SR-99 SB	White Ln EB On	No												810		0.592			0.592	1,639

HCM 2000 Merge Ramp Junctions Capacity Analysis

General Information Capacity Checks Freeway/ Max v<sub>FI</sub> Max v<sub>FO</sub>  $V_{Fi}$ V<sub>FO</sub> V<sub>3</sub>, V<sub>av34</sub> V<sub>3</sub>, V<sub>av34</sub> V3, Vav34 V<sub>12a</sub> V<sub>R12a</sub> Max V<sub>R12a</sub> Direction On-ramp (pcph) (pcph) LOS F? LOS F? (pcphpl) > 2,700? >1.5\*v<sub>12</sub>/2? (pcph) (pcph) (pcph) (pcph) (pcph) LOS F? SR-58 EB Chester Ave On No 4,235 3,684 4,800 4,800 No 0 No No 3,684 4,235 4,600 No SR-58 EB Union Ave SB On 3,207 4,800 No 3,432 4,800 No 0 No No 3,207 3,432 4,600 No SR-58 EB Union Ave NB On M-3 3,407 4,800 No 3,653 4,800 No 0 No 3,407 No 3,653 4,600 No M-4 SR-58 WB Brundage Ln On 3,218 4,800 0 No 3,471 4,800 No No No 3,218 3,471 4.600 No M-5 SR-58 WB Union Ave SB On 3,455 4,800 Νo 3,756 4,800 No 0 No No 3,455 3.756 4.600 No M-6 SR-58 WB H St On 3,203 4,800 No 3,580 4,800 No 0 No No 3,203 3,580 4,600 No M-7 SR-99 NB White Ln EB On 4.020 7.200 No 5.920 7.200 1,658 No No No 2,362 4,262 4,600 No M-8 SR-99 NB White Ln WB On 5,875 7,200 6.694 7,200 2,395 No No No No 3,480 4,299 4,600 No M-9 SR-99 NB Ming Ave On 5,933 9,600 7,392 No 9,600 No 2,450 No Yes 2,373 3,832 4,600 No M-10 SR-99 NB Wible On 5,461 9,600 No 6.042 9.600 No 1,664 Νo 2,185 2,766 Yes 4,600 No M-11 SR-99 NB SR-58 On 6.018 9,600 7,428 9,600 2,543 No No No Yes 2,407 3,818 4,600 No M-12 SR-99 NB California Ave EB On 6,083 9,600 6,627 9,600 No No 1,908 No Yes 2,433 2,977 4,600 No M-13 SR-99 NB California Ave WB On 6,611 9,600 No 6,892 9,600 No 2.259 No Yes 2.644 2.925 4.600 No M-14 SR-99 NB Buck Owens Blvd On 4,293 9,600 No 4,681 9,600 No 1.304 No Yes 1,717 2.105 4,600 No M-15 SR-99 SB Airport Dr On 3.860 9.600 No 5.152 9.600 No 1,582 No Yes 1,544 2,836 4,600 No M-16 SR-99 SB Rosedale Hwy WB On 4,346 9.600 No 5,198 9,600 No 1,408 No Yes 1,739 2,591 4,600 No M-17 SR-99 SB Rosedale Hwy EB On 5,194 9,600 No 6.303 9,600 No 1,986 No Yes 2,078 3,187 4,600 No M-18 SR-99 SB California Ave On 4,850 9,600 No 5,238 9,600 No 1,485 No Yes 1,940 2,329 4,600 No M-19 SR-99 SB SR-58 On 3,430 9,600 No 4,544 9,600 No 1,114 No Yes 1,372 2,486 4.600 No M-20 SR-99 SB Real Rd On 4,524 4,813 9,600 No 9,600 No 1,548 No Yes 1.810 2.099 4.600 No M-21 SR-99 SB Ming Ave On 3,859 7,200 No 4,143 7,200 No 1,571 No No 2,288 2,572 4,600 No SR-99 SB White Ln WB On 2.634 7,200 No 2,767 7,200 No 1.084 No No 1,550 1,683 4,600 No SR-99 SB White Ln EB On 2,769 7,200 No 2,934 7,200 No 1,130 No No 1,639 1,805 4,600 No

HCM 2000 Merge Ramp Junctions Capacity Analysis

Genera	al Informatio	n				Results		Speed Es	timation		
	Freeway/		v <sub>R</sub>	Max v <sub>R</sub>		Density, D	Level of	Int. Var.	Inf. Area	Out Lns.	All vehs.
	Direction	On-ramp	(pcph)	(pcph)	LOS F?	(pcplpm)	Service	Ms	S <sub>R</sub> (mph)	S <sub>O</sub> (mph)	S (mph)
M-1	SR-58 EB	Chester Ave On	551	2,100	No	34.9	D	0.542	52.5	0.0	52.5
M-2	SR-58 EB	Union Ave SB On	224	1,900	No	29.1	D	0.418	55.4	0.0	55.4
M-3	SR-58 EB	Union Ave NB On	246	2,100	No	30.5	D	0.423	55.3	0.0	55.3
M-4	SR-58 WB	Brundage Ln On	253	1,900	No	29.4	D	0.423	55.3	0.0	55.3
M-5	SR-58 WB	Union Ave SB On	301	1,900	No .	31.3	D	0.461	54.4	0.0	54.4
M-6	SR-58 WB	H St On	377	2,100	No	29.8	D	0.412	55.5	0.0	55.5
M-7	SR-99 NB	White Ln EB On	1,900	1,900	No	35.6	E	0.580	51.7	60.8	53.9
M-8	SR-99 NB	White Ln WB On	819	2,100	No	35.3	E	0.561	52.1	57.9	54.0
M-9	SR-99 NB	Ming Ave On	1,459	2,100	No	31.2	D	0.451	54.6	60.4	57.3
M-10	SR-99 NB	Wible On	581	1,900	No	23.3	C	0.355	56.8	60.9	59.0
M-11	SR-99 NB	SR-58 On	1,411	2,200	No	31.1	D	0.437	55.0	60.3	57.4
M-12	SR-99 NB	California Ave EB On	543	1,900	No	25.3	C	0.373	56.4	60.2	58.5
M-13	SR-99 NB	California Ave WB On	281	2,100	No	24.8	С	0.345	57.1	59.7	58.5
M-14	SR-99 NB	Buck Owens Blvd On	388	1,900	No	18.6	В	0.328	57.5	62.2	60.0
M-15	SR-99 SB	Airport Dr On	1,292	2,100	No	23.9	C.	0.342	57.1	62.6	59.5
M-16	SR-99 SB	Rosedale Hwy WB On	852	1,900	No	21.9	С	0.346	57.0	62.1	59.5
M-17	SR-99 SB	Rosedale Hwy EB On	1,109	2,100	No	25.9	Č	0.359	56.7	61.2	58.9
M-18	SR-99 SB	California Ave On	389	1,900	No	20.4	С	0.337	57.3	61.6	59.6
M-19	SR-99 SB	SR-58 On	1,114	1,900	No	20.5	C	0.337	57.2	63.1	59.8
M-20	SR-99 SB	Real Rd On	289	2,100	No	18.3	В	0.304	58.0	61.9	60.1
M-21	SR-99 SB	Ming Ave On	284	2,100	No	22.0	С	0.323	57.6	61.1	58.9
M-22	SR-99 SB	White Ln WB On	133	1,900	No	16.1	В	0.322	57.6	62.9	59.6
M-23	SR-99 SB	White Ln EB On	165	2,100	No	16.2	В	0.298	58.1	62.7	59.8

**HCM 2000 Diverge Ramp Junctions Capacity Analysis** 

D-16 SR-99 SB SR-58 Off

D-17 SR-99 SB Ming Ave Off

D-18 SR-99 SB White Ln Off

Jurisdiction Bakersfield, CA Analysis Year Existing (2008)

Agency or Company TRIP

65.0

65.0

65.0

Analyst BP

AM

AM

AM

Project Description Centennial Corridor Study

15%

12%

14%

0%

0%

0%

1.5 1.20

1.5 1.20

1.5 1.20 0.935

0.930

0.943

1.00

1.00

1.00

5,198

4,750

4,175

Level

Level

Level

Date 3.3.10

General Information Freeway Data Freeway Volume Adjustment Freeway/ Analysis SFF ٧ Truck/ Flow Rate Direction Off-ramp Time Period Lanes (mph) (vph) PHF Terrain Bus % RV % Eτ ER f<sub>HV</sub> fр v<sub>p</sub> (pcph) SR-58 EB Union Ave Off AM 65.0 3.618 0.92 Level 10% 0% 1.5 1,20 0.952 1.00 4,129 D-3 SR-58 WB Brundage Ln Off AM 2 65.0 3,168 0.88 Level 12% 0% 1.5 1.20 0.943 1.00 3,816 D-4 SR-58 WB Chester Ave Off AM 2 65.0 3,096 0.88 Level 13% 0% 1.5 1.20 0.939 1.00 3.747 D-5 SR-58 WB SR-99 NB Off AM 2 65.0 2,955 0.88 Level 13% 0% 1.5 1.20 0.939 1.00 3,576 D-6 SR-58 WB SR-99 SB Off AM 2 65.0 1,867 0.88 8% Level 0% 1.5 1.20 0.962 1.00 2,206 SR-99 NB White Ln Off AM 3 65.0 3,555 0.88 Level 11% 0% 1.5 1.20 0.948 1.00 4,262 D-8 SR-99 NB Ming Ave Off AM 4 65.0 5.608 0.94 10% Level 0% 1.5 1.20 0.952 1.00 6,264 D-9 SR-99 NB SR-58 Off AM 4 65.0 6.576 0.93 Level 9% 0% 1.5 1.20 0.957 1.00 7,389 D-10 SR-99 NB California Ave Off AM 65.0 6,386 0.92 11% Level 0% 1.5 1.20 0.948 1.00 7,323 D-11 SR-99 NB Rosedale Hwy Off AM 65.0 5.939 0.92 Level 12% 0% 1.5 1.20 0.943 1.00 6,843 D-12 SR-99 NB Buck Owens Blvd Off AM 65.0 4,209 0.92 Level 15% 0% 1.5 1.20 0.930 1.00 4,918 D-13 SR-99 NB Airport Dr Off AM 65.0 3,693 0.86 Level 17% 0% 1.5 1.20 0.922 1.00 4,659 D-14 SR-99 SB Rosedale Hwy Off AM 65.0 4,062 0.86 Level 14% 0% 1.5 1.20 0.935 1.00 5,054 D-15 SR-99 SB California Ave Off AM 65.0 5.092 0.89 13% Level 0% 1.5 1.20 0.939 1.00 6.093

4,352

4,078

3,512

0.90

0.91

0.90

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	al Informatio	n	Off-Ran	np Data						Off-Ran	p Volume .	Adjustment						
	Freeway/	w			S <sub>FR</sub>	V <sub>R</sub>	De	cel Lane	(ft)			Truck/						Flow Rate
L	Direction	Off-ramp	Туре	Lanes	(mph)	(vph)	$L_{D1}$	$L_{D2}$	$L_{Deff}$	PHF	Terrain	Bus %	RV %	Eτ	$E_R$	$f_{HV}$	fР	v <sub>p</sub> (pcph)
D-2	SR-58 EB	Union Ave Off	Right	1	45.0	821	140		140	0.90	Level	4%	0%	1.5	1.2	0.980	1.00	930
D-3	SR-58 WB	Brundage Ln Off	Right	1	25.0	509	150		150	0.88	Level	8%	0%	1.5	1,2	0.962	1.00	602
D-4	SR-58 WB	Chester Ave Off	Right	1	45.0	474	140		140	0.86	Level	4%	0%	1.5	1.2	0.980	1.00	562
D-5	SR-58 WB	SR-99 NB Off	Right	1	55.0	1,088	160		160	0.86	Level	23%	0%	1.5	1.2	0.897	1.00	1,411
D-6	SR-58 WB	SR-99 SB Off	Right	1	25.0	938	110		110	0.88	Level	9%	0%	1.5	1.2	0.957	1.00	1,114
D-7	SR-99 NB	White Ln Off	Right	1	45.0	202	140		140	0.87	Level	8%	0%	1.5	1.2	0.962	1.00	241
D-8	SR-99 NB	Ming Ave Off	Right	1	25.0	297	200		200	0.88	Level	5%	0%	1,5	1.2	0.976	1.00	346
D-9	SR-99 NB	SR-58 Off	Right	1	55.0	1,768	140		140	0.90	Level	7%	0%	1.5	1.2	0.966	1.00	2,033
D-10	SR-99 NB	California Ave Off	Right	1	45.0	1,131	140		140	0.88	Level	2%	0%	1.5	1.2	0.990	1.00	1,298
D-11	SR-99 NB	Rosedale Hwy Off	Right	1	45.0	1,730	140		140	0.90	Level	5%	0%	1.5	1.2	0.976	1.00	1,970
D-12	SR-99 NB	Buck Owens Blvd Off	Right	1	25.0	822	140		140	0.84	Level	7%	0%	1.5	1.2	0.966	1.00	1,013
D-13	SR-99 NB	Airport Dr Off	Right	1	45.0	1,508	300		300	0.84	Level	4%	0%	1.5	1.2	0.980	1.00	1.831
D-14	SR-99 SB	Rosedale Hwy Off	Right	1	45.0	585	140		140	0.86	Level	8%	0%	1.5	1.2	0.962	1.00	707
D-15	SR-99 SB	California Ave Off	Right	1	45.0	1,077	140		140	0.88	Level	2%	0%	1.5	1.2	0.990	1.00	1,236
D-16	SR-99 SB	SR-58 Off	Right	1	55.0	1,467	160		160	0.88	Level	15%	0%	1.5	1.2	0.930	1.00	1,792
D-17	SR-99 SB	Ming Ave Off	Right	1	45.0	811	210		210	0.88	Level	3%	0%	1.5	1.2	0.985	1.00	935
D-18	SR-99 SB	White Ln Off	Right	2	45.0	1,347	140	1,150	1,430	0.86	Level	5%	0%	1.5	1.2	0.976	1.00	1,605

**HCM 2000 Diverge Ramp Junctions Capacity Analysis** 

General Information Freeway/

Direction

D-2 SR-58 EB Union Ave Off D-3 SR-58 WB Brundage Ln Off D-4 SR-58 WB Chester Ave Off D-5 SR-58 WB SR-99 NB Off D-6 SR-58 WB SR-99 SB Off D-7 SR-99 NB White Ln Off D-8 SR-99 NB Ming Ave Off D-9 SR-99 NB SR-58 Off D-10 SR-99 NB California Ave Off D-11 SR-99 NB Rosedale Hwy Off D-12 SR-99 NB Buck Owens Blvd Off D-13 SR-99 NB Airport Dr Off

D-14 SR-99 SB Rosedale Hwy Off

D-15 SR-99 SB California Ave Off

D-16 SR-99 SB SR-58 Off

D-17 SR-99 SB Ming Ave Off

D-18 SR-99 SB White Ln Off

Off-ramp

			Volume			Truck/						Flow Rate
	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Eτ	ER	f <sub>HV</sub>	f <sub>P</sub>	v <sub>p</sub> (pcph)
	No											
	No											
	No											
	No											
	No											
	No											
	No											İ
I	No											
	No											
1	No											
	No											

4%

1.5 1.2 0.980 1.00

282

Adjacent Upstream Ramp Data

No

No

No

No

No

On

5,270

243

0.88

Level

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	al Information	П	Adjacent l	Downstream	Ramp Da	ta									v 12 Esti	mation		
	Freeway/				Volume			Truck/						Flow Rate	L <sub>E</sub>	Q		V <sub>12</sub>
	Direction	Off-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Eτ	ER	$f_{HV}$	fР	v <sub>p</sub> (pcph)	25-13	25-14	$P_{FD}$	(pcph)
D-2	SR-58 EB		No														1.000	4,129
D-3	SR-58 WB	Brundage Ln Off	No														1.000	3,816
D-4	SR-58 WB	Chester Ave Off	No														1.000	3,747
D-5	SR-58 WB	SR-99 NB Off	j No														1.000	3,576
D-6	SR-58 WB	SR-99 SB Off	No												ļ		1.000	2,206
D-7		White Ln Off	On	1,250	1,571	0.86	Level	8%	0%	1.5	1.2	0.962	1.00	1,900		2,055	0.642	2,824
D-8	SR-99 NB	Ming Ave Off	No														0.436	2,926
D-9	SR-99 NB	SR-58 Off	No														0.436	4,368
D-10	SR-99 NB	California Ave Off	No														0.436	3,925
D-11	SR-99 NB	Rosedale Hwy Off	No														0.436	4,095
D-12	SR-99 NB	Buck Owens Blvd Off	No														0.436	2,716
D-13	SR-99 NB	Airport Dr Off	No														0.436	3,064
D-14	SR-99 SB	Rosedale Hwy Off	No														0.436	2,602
D-15	SR-99 SB	California Ave Off	No														0.436	3,354
D-16	SR-99 SB	SR-58 Off	No														0.436	3,277
D-17	SR-99 SB	Ming Ave Off	No														0.436	2,599
D-18	SR-99 SB	White Ln Off	On	1,520	111	0.87	Level	9%	0%	1.5	1.2	0.957	1.00	133	6,256	314	0.450	2,762

HCM 2000 Diverge Ramp Junctions Capacity Analysis

General Information Capacity Checks Freeway/ Max v<sub>Fi</sub> Max v<sub>12</sub> VFI V3, Vav34 V3, Vav34 V3, Vav34 V<sub>12a</sub>  $v_{FO}$ Max v<sub>FO</sub> LOS F? > 2,700? >1.5\*v<sub>12</sub>/2? Direction Off-ramp (pcph) (pcph) (pcphpl) (pcph) (pcph) LOS F? (pcph) (pcph) LOS F? D-2 SR-58 EB Union Ave Off 4,129 4,800 No No 4,129 4,400 3,199 No No 4,800 No 0 D-3 SR-58 WB Brundage Ln Off 3,816 4,800 No 0 No Νø 3,816 4,400 No 3,214 4,800 No D-4 SR-58 WB Chester Ave Off 3,747 4,800 Νo 0 No No 3,747 4,400 No 3,185 4,800 No D-5 SR-58 WB SR-99 NB Off 3.576 4.800 No No No 3,576 4,400 No 2,166 4.800 No D-6 SR-58 WB SR-99 SB Off 2,206 4,800 No Νo No 2,206 4,400 1,093 4,800 No No D.7 SR-99 NB White Ln Off 7,200 1,438 No No 2,824 4,400 4,262 No No 4,020 7,200 No D-8 SR-99 NB Ming Ave Off 6,264 9,600 No 1,669 No No 2,926 4,400 No 5,918 9,600 No SR-99 NB SR-58 Off 7,389 9,600 1,510 No 4,368 4,400 5,356 9,600 Νo No No No D-10 SR-99 NB California Ave Off 7,323 9,600 3,925 4,400 1,699 No 6,025 9,600 No No No No D-11 SR-99 NB Rosedale Hwy Off 6,843 9,600 1,374 4,095 4,400 No No No No 4,872 9,600 No D-12 SR-99 NB Buck Owens Blvd Off 4,918 9,600 No 1,101 No No 2,716 4,400 No 3,905 9,600 No D-13 SR-99 NB Airport Dr Off 9,600 3,064 4,400 2,828 4,659 No 798 No No No 9,600 No D-14 SR-99 SB Rosedale Hwy Off 5.054 9,600 No 1,226 No No 2,602 4,400 No 4,346 9.600 No D-15 SR-99 SB California Ave Off 6.093 9.600 No 1.370 No No 3,354 4,400 No 4,857 9,600 No D-16 SR-99 SB SR-58 Off 5,198 9,600 No 961 No No 3.277 4,400 No 3,406 9,600 No 1,076 D-17 SR-99 SB Ming Ave Off 4,750 9,600 No No No 2.599 4,400 No 3,815 9,600 No D-18 SR-99 SB White Ln Off 4,175 7,200 No 1,413 No No 2,762 4,400 No 2,570 7,200 No.

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Genera	al Information	<u> </u>			•	Results		Speed Es	timation		
	Freeway/		V <sub>R</sub>	Max v <sub>R</sub>		Density, D	Level of	Int. Var.	Inf. Area	Out Lns.	All vehs.
	Direction	Off-ramp	(pcph)	(pcph)	LOS F?	(pcplpm)	Service	Ds	S <sub>R</sub> (mph)	So (mph)	S (mph)
D-2	SR-58 EB	Union Ave Off	930	2,100	No	38.5	E	0.382	56.2	0.0	56.2
D-3	SR-58 WB	Brundage Ln Off	602	1,900	No	35.7	E	0.612	50.9	0.0	50.9
D-4	SR-58 WB	Chester Ave Off	562	2,100	No	35.2	E	0.349	57.0	0.0	57.0
D-5	SR-58 WB	SR-99 NB Off	1,411	2,200	No	33.6	D	0.295	58.2	0.0	58.2
D-6	SR-58 WB	SR-99 SB Off	1,114	1,900	No	22.2	С	0.658	49.9	0.0	49.9
D-7	SR-99 NB	White Ln Off	241	2,100	No	27.3	C	0.320	57.6	69.6	61.2
D-8	SR-99 NB	Ming Ave Off	346	1,900	No	27.6	C	0.589	51.4	68.7	59.4
D-9	SR-99 NB	SR-58 Off	2,033	2,200	No	40.6	E	0.351	56.9	69.3	61.4
D-10	SR-99 NB	California Ave Off	1,298	2,100	No	36.7	Ε	0.415	55.5	68.6	60.9
D-11	SR-99 NB	Rosedale Hwy Off	1,970	2,100	No	38.2	Ε	0.475	54.1	69.8	59.5
D-12	SR-99 NB	Buck Owens Blvd Off	1,013	1,900	No	26.3	С	0.649	50.1	70.9	57.7
D-13	SR-99 NB	Airport Dr Off	1,831	2,100	No	27.9	С	0.463	54.4	71.3	59.2
D-14	SR-99 SB	Rosedale Hwy Off	707	2.100	No	25.4	C	0.362	56.7	70.4	62.6
D-15	SR-99 SB	California Ave Off	1,236	2,100	No	31.8	D	0.409	55.6	69.9	61.2
D-16	SR-99 SB	SR-58 Off	1,792	2,200	No	31.0	D	0.329	57.4	71.3	61.9
D-17	SR-99 SB	Ming Ave Off	935	2,100	No	24.7	C	0.382	56.2	71.0	62.1
D-18	SR-99 SB	White Ln Off	1,605	4,100	No	15.1	В	0.442	54.8	69.7	59.1

HCM 2000 Basic Freeway Segments
Capacity Analysis Jurisdiction Bakersfield, CA
Analysis Year Existing (2008)
Analyst BP

Agency or Company TRIP
Date 3.3.10
Project Description Centennial Corridor Study

Genera	Information			Flow Rate C	alculation	n									Speed Calcul	ation	Results	
	Freeway/		Analysis	Volume				Truck/						Flow Rate	Measured	S	Density, D	Level of
	Direction	From/To	Time Period	(vph)	PHF	Lanes	Terrain	Bus %	RV %	Ε <sub>τ</sub>	ER	f <sub>HV</sub>	f₽	v <sub>p</sub> (pcphpi)	FFS (mph)	(mph)	(pcplpm)	Service
B-2		H St Off to Chester Ave On	PM	3,003	0.92	2	Level	13%	0%	1.5	1.2	0.939	1.00	1,738	65.0	64.3	27.0	D
B-3	SR-58 EB	Chester Ave to Union Ave	PM	3,562	0,92	2	Level	11%	0%	1.5	1.2	0.948	1.00	2.042	65.0	60.7	33.7	D
B-4	SR-58 EB	Union Ave Off to On	РМ	3,005	0.90	2	Level	11%	0%	1.5	1.2	0,948	1.00	1.761	65.0	64.2	27.4	Ď
B-5		Union Ave to Cottonwood Rd	PM	3,469	0.90	2	Level	10%	0%	1.5	1.2	0.952	1.00	2.024	65.0	61.0	33.2	Ď
B-6		Cottonwood Rd to Union Ave	PM	3,053	0.92	2	Level	9%	0%	1.5	1.2	0.957	1.00	1.734	65.0	64.4	26.9	Ď
B-7		Brundage Ln Off to On	PM:	2,703	0.92	2	Level	9%	0%	1.5	1.2	0.957	1.00	1.535	65.0	65.0	23.6	Č
B-8		Chester Ave Off to H St On	PM	2,832	0.92	2	Level	9%	0%	1.5	1.2	0.957	1.00	1,608	65.0	64.9	24.8	Č
B-9	SR-58 WB	H St to SR-99	PM	3,291	0.92	2	Level	8%	0%	1.5	1.2	0.962	1.00	1.860	65.0	63.3	29.4	Ď
B-10	SR-58 WB	SR-99 NB Off to SB Off	PM	2,207	0.92	2	Level	2%	0%	1.5	1.2	0.990	1.00	1,211	65.0	65.0	18.6	Č
B-11		Panama Ln to White Ln	PM	2,448	0.90	3	Level	16%	0%	1.5	1.2	0.926	1.00	979	65.0	65.0	15.1	В
B-12	SR-99 NB	White Ln Off to On	PM	2,110	0.90	3	Level	18%	0%	1.5	1.2	0.917	1.00	852	65.0	65.0	13.1	В
B-13	SR-99 NB	White Ln to Ming Ave	PM	3,722	0.94	3	Level	12%	0%	1.5	1.2	0.943	1.00	1,399	65.0	65.0	21.5	C
B-14	SR-99 NB	Ming Ave Off to On	PM	3,319	0.93	4	Level	13%	0%	1.5	1.2	0.939	1.00	950	65.0	65.0	14.6	B
B-15	SR-99 NB	SR-58 Off to Wible On	PM	3,097	0.93	4	Level	12%	0%	1.5	1.2	0.943	1.00	882	65.0	65.0	13.6	В
B-16	SR-99 NB	SR-58 to California Ave	PM	4,742	0.93	4	Level	13%	0%	1.5	1.2	0.939	1.00	1.358	65.0	65.0	20.9	Č
B-17	SR-99 NB	California Ave Off to On	РМ	4,064	0.93	4	Level	14%	0%	1.5	1.2	0.935	1.00	1.169	65.0	65.0	18.0	В
B-18	SR-99 NB	California Ave to Rosedale Hwy	РМ	4,990	0.92	4	Level	12%	0%	1.5	1.2	0.943	1.00	1,437	65.0	65.0	22.1	č
B-19	SR-99 NB	Buck Owens Blvd Off to On	PM	2.926	0.89	4	Level	15%	0%	1.5	1.2	0.930	1.00	884	65.0	65.0	13.6	8
B-20	SR-99 NB	Airport Dr Off to Golden State Blvd On	PM	2,194	0.87	3	Level	20%	0%	1.5	1.2	0.909	1.00	925	65.0	65.0	14.2	8
B-21	SR-99 SB	Golden State Ave Off to Airport Dr On	PM	3,150	0.89	3	Level	17%	0%	1.5	1.2	0.922	1.00	1,280	65.0	65.0	19.7	Č
B-22	SR-99 SB	Airport Dr to Rosedale Hwy	РМ	4.875	0.88	4	Level	12%	0%	1.5	1.2	0.943	1.00	1,468	65.0	65.0	22.6	Č.
B-23	SR-99 SB	Rosedale Hwy Off to On	РМ	4.242	0.88	4	Level	12%	0%	1.5	1.2	0.943	1.00	1,277	65.0	65.0	19.7	č
B-24	SR-99 SB	Rosedale Hwy to California Ave	РМ	6,700	0.92	4	Level	10%	0%	1.5	1,2	0.952	1.00	1,912	65.0	62.7	30.5	Ď
B-25		California Ave Off to On	РМ	5,673	0.92	4	Level	12%	0%	1.5	1.2	0.943	1.00	1.634	65.0	64.8	25.2	Č
B-26	SR-99 SB	California Ave to SR-58	РМ	6,518	0.92	4	Level	10%	0%	1.5	1.2	0.952	1.00	1.860	65.0	63.3	29.4	Ď
B-27	SR-99 SB	SR-58 Off to On	РМ	4,622	0.92	4	Level	8%	0%	1.5	1.2	0.962	1.00	1,306	65.0	65.0	20.1	č
B-28	SR-99 SB	Ming Ave Off to On	РМ	4,470	0.92	4	Level	9%	0%	1.5	1.2	0.957	1.00	1,269	65.0	65.0	19,5	č
B-29	SR-99 SB	Ming Ave to White Ln	РМ	4,928	0.89	3	Level	8%	0%	1.5	1.2	0.962	1.00	1.920	65.0	62.6	30.6	Ď
B-30	SR-99 SB	White Ln Off to On	PM	2,899	0.89	3	Level	12%	0%	1.5	1.2	0.943	1.00	1,151	65.0	65.0	17.7	8
B-31	SR-99 SB	White Ln to Panama Ln	PM	3,176	0.90	3	Level	11%	0%	1.5	1.2	0.948	1.00	1,241	65.0	65.0	19.1	č

**HCM 2000** Merge Ramp Junctions Capacity Analysis Jurisdiction Bakersfield, CA
Analysis Year Existing (2008)
Analyst BP Agency or Company TRIP
Date 3.3.10

Project Description Centennial Corridor Study

General Information Freeway Data Freeway Volume Adjustment

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	Freeway/		Analysis		SFF	٧			Truck/						Flow Rate
	Direction	On-ramp	Time Period	Lanes	(mph)	(vph)	PHF	Terrain	Bus %	RV %	Eτ	ER	f <sub>HV</sub>	f₽	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	PM	2	65.0	3,003	0.92	Level	13%	0%	1.5	1.2	0.939	1.00	3,476
M-2	SR-58 EB	Union Ave ŞB On	РM	2	65.0	3,005	0.90	Level	11%	0%	1.5	1.2	0.948	1.00	3,523
M-3	SR-58 EB	Union Ave NB On	РM	2	65.0	3,226	0.90	Level	10%	0%	1.5	1.2	0.952	1.00	3,764
M-4	SR-58 WB	Brundage Ln On	PM	2	65.0	2,703	0.92	Level	9%	0%	1.5	1.2	0.957	1.00	3,070
M-5	SR-58 WB	Union Ave SB On	РM	2	65.0	2,952	0.92	Level	8%	0%	1.5	1.2	0.962	1.00	3,337
M-6	<b>SR-58 WB</b>	H St On	РM	2	65.0	2,832	0.92	Level	9%	0%	1.5	1.2	0.957	1.00	3,217
M-7	SR-99 NB	White Ln EB On	PM	3	65.0	2,110	0.90	Level	18%	0%	1.5	1.2	0.917	1.00	2,555
M-8	SR-99 NB	White Ln WB On	PM	3	65.0	3,265	0.90	Level	13%	0%	1.5	1.2	0.939	1.00	3,864
M-9	SR-99 NB	Ming Ave On	PM	4	65.0	3,319	0.93	Level	13%	0%	1.5	1.2	0.939	1.00	3,801
M-10	SR-99 NB	Wible On	PM	4	65.0	3,097	0.93	Level	12%	0%	1.5	1.2	0.943	1.00	3,530
M-11	SR-99 NB	SR-58 On	PM	4	65.0	3,658	0.93	Level	11%	0%	1.5	1.2	0.948	1.00	4,150
M-12	SR-99 NB	California Ave EB On	PM	4	65.0	4,064	0.93	Level	14%	0%	1.5	1.2	0.935	1.00	4,676
M-13	SR-99 NB	California Ave WB On	PM .	4	65.0	4,693	0.93	Level	13%	0%	1.5	1.2	0.939	1.00	5,374
M-14	SR-99 NB	Buck Owens Blvd On	PM	4	65.0	2,926	0.89	Level	15%	0%	1.5	1.2	0.930	1.00	3,534
M-15	SR-99 SB	Airport Dr On	PM	4	65.0	3,150	0.89	Level	17%	0%	1.5	1.2	0.922	1.00	3,840
M-16	SR-99 SB	Rosedale Hwy WB On	PM	4	65.0	4,242	0.88	Level	12%	0%	1.5	1.2	0.943	1.00	5,110
M-17	SR-99 SB	Rosedale Hwy EB On	PM	4	65.0	5,509	0.88	Level	11%	0%	1.5	1.2	0.948	1.00	6,605
M-18	SR-99 SB	California Ave On	PM	4	65.0	5,673	0.92	Level	12%	0%	1.5	1.2	0.943	1.00	6,536
M-19	SR-99 SB	SR-58 On	PM	4	65.0	4,622	0.92	Level	8%	0%	1.5	1.2	0.962	1.00	5,225
M-20	SR-99 SB	Real Rd On	PM .	4	65.0	5,746	0.92	Level	7%	0%	1.5	1.2	0.966	1.00	6,464
M-21	SR-99 SB	Ming Ave On	PM	3	65.0	4,470	0.92	Level	9%	0%	1.5	1.2	0.957	1.00	5,077
M-22	SR-99 SB	White Ln WB On	PM	3	65.0	2,899	0.89	Level	12%	0%	1.5	1.2	0.943	1.00	3,453
M-23	SR-99 SB	White Ln EB On	PM	3	65.0	3,038	0.89	Level	11%	0%	1.5	1.2	0.948	1.00	3,601

HCM 2000 Merge Ramp Junctions Capacity Analysis

Gener	al Information	7	On-Ran	np Data						On-Ran	np Volume	Adjustment						
	Freeway/				SFR	VR	Ac	cel Lane	(ft)			Truck/						Flow Rate
<u></u>	Direction	On-ramp	Туре	Lanes	(mph)	(vph)	LA1	L <sub>A2</sub>	$L_{Aeff}$	PHF	Terrain	Bus %	RV %	Eτ	ER	f <sub>HV</sub>	fp	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	Right	1	45.0	559	540		540	0.90	Level	3%	0%	1.5	1.2	0.985	1.00	630
M-2	SR-58 EB	Union Ave SB On	Right	1	25.0	221	480		480	0.91	Level	3%	0%	1.5	1.2	0.985	1.00	247
M-3	SR-58 EB	Union Ave NB On	Right	1	45.0	243	540		540	0.91	Level	6%	0%	1.5	1.2	0.971	1.00	275
M-4		Brundage Ln On	Right	1	25.0	249	480		480	0.90	Level	3%	0%	1.5	1.2	0.985	1.00	281
M-5	SR-58 WB	Union Ave SB On	Right	1	25.0	344	540		540	0.90	Level	2%	0%	1.5	1.2	0.990	1.00	386
M-6	SR-58 WB	H St On	Right	1	45.0	459	540		540	0.90	Level	2%	0%	1.5	1.2	0.990	1.00	515
M-7	SR-99 NB	White Ln EB On	Right	1	25.0	1,155	360		360	0.86	Level	4%	0%	1.5	1.2	0.980	1.00	1,370
M-8	SR-99 NB	White Ln WB On	Right	1	45.0	457	530		530	0.86	Level	1%	0%	1.5	1.2	0.995	1.00	534
M-9	SR-99 NB	Ming Ave On	Right	1	45.0	1,215	560		560	0.88	Level	1%	0%	1.5	1.2	0.995	1.00	1,388
M-10	SR-99 NB	Wible On	Right	1	25.0	561	550		550	0.90	Level	2%	0%	1.5	1.2	0.990	1.00	630
M-11	SR-99 NB	SR-58 On	Right	1	55.0	1.084	560		560	0.88	Level	19%	0%	1.5	1.2	0.913	1.00	1,349
M-12	SR-99 NB	California Ave EB On	Right	1	25.0	629	500		500	0.88	Level	1%	0%	1.5	1.2	0.995	1.00	718
M-13	SR-99 NB	California Ave WB On	Right	1	45.0	297	540		540	0.86	Level	0%	0%	1.5	1.2	1.000	1.00	345
M-14	SR-99 NB	Buck Owens Blvd On	Right	1	25.0	479	500		500	0.84	Level	10%	0%	1.5	1.2	0.952	1.00	599
M-15	SR-99 SB	Airport Dr On	Right	1	45.0	1,725	500		500	0.86	Level	2%	0%	1.5	1.2	0.990	1.00	2,026
M-16	SR-99 SB	Rosedale Hwy WB On	Right	1	25.0	1,267	540		540	0.88	Level	6%	0%	1.5	1.2	0.971	1.00	1,483
M-17	SR-99 SB	Rosedale Hwy EB On	Right	1	45.0	1.191	630		630	0.88	Level	7%	0%	1.5	1.2	0.966	1.00	1,401
M-18		California Ave On	Right	1	25.0	845	490		490	0.88	Level	1%	0%	1.5	1.2	0.995	1.00	965
M-19		SR-58 On	Right	1	25.0	1.124	610		610	0.90	Level	3%	0%	1.5	1.2	0.985	1.00	1,268
M-20		Real Rd On	Right	i	45.0	281	540		540	0.88	Level	1%	0%	1.5	1.2	0.995	1.00	321
M-21		Ming Ave On	Right	1	45.0	458	550		550	0.88	Level	1%	0% 0%	1.5	1.2	0.995	1.00	521 523
M-22		White Ln WB On	Right	1	25.0	139	390		390	0.87	Level	1%	0%					
M-23	SR-99 SB	White Ln EB On	Right	4	45.0	138	520							1.5	1.2	0.995	1.00	161
MARCO	011-99 00	WHITE LILED ON	1 rignt		40.0	100	520		520	0.86	Levei	2%	0%	1.5	1.2	0.990	1.00	162

HCM 2000 Merge Ramp Junctions Capacity Analysis

General Information

Adjacent Upstream Ramp Data

	Freeway/				Volume			Truck/						Flow Rate
	Direction	On-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Eτ	ER	$f_{HV}$	$f_P$	v <sub>p</sub> (pcph)
M-1	SR-58 EB	Chester Ave On	No											
M-2	SR-58 EB	Union Ave SB On	No											
M-3	SR-58 EB	Union Ave NB On	No											
M-4	SR-58 WB	Brundage Ln On	No											
M-5	SR-58 WB	Union Ave SB On	No											
M-6	SR-58 WB	H St On	No											
M-7	SR-99 NB	White Ln EB On	Off	1,250	338	0.90	Level	4%	0%	1.5	1.2	0.980	1.00	383
M-8	SR-99 NB	White Ln WB On	On	680	1,155	0.86	Level	4%	0%	1.5	1.2	0.980	1.00	1,370
M-9	SR-99 NB	Ming Ave On	No											
M-10	SR-99 NB	Wible On	No											
M-11	SR-99 NB	SR-58 On	No											
M-12	SR-99 NB	California Ave EB On	No											
M-13	SR-99 NB	California Ave WB On	No											
M-14	SR-99 NB	Buck Owens Blvd On	No											
M-15	SR-99 SB	Airport Dr On	No											
M-16	SR-99 SB	Rosedale Hwy WB On	No											
M-17	SR-99 SB	Rosedale Hwy EB On	No											
M-18	SR-99 SB	California Ave On	No											
M-19	SR-99 SB	SR-58 On	No											
M-20	SR-99 SB	Real Rd On	No											
M-21	SR-99 SB	Ming Ave On	Off	2,870	1,557	0.90	Level	1%	0%	1.5	1.2	0.995	1.00	1,739
M-22	SR-99 SB	White Ln WB On	Off	1,520	2,029	0.88	Level	3%	0%	1.5	1.2	0.985	1.00	2,340
M-23		White Ln EB On	On	600	139	0.87	Level	1%	0%	1.5	1.2	0.995	1.00	161

HCM 2000 Merge Ramp Junctions Capacity Analysis

Gener	ral Informatio	on	Adjacent	Downstream	Ramp Da	ıta									v <sub>12</sub> Est	imation					
	Freeway/				Volume			Truck/						Flow Rate	L	EQ	PF	M Equation	пѕ		V <sub>12</sub>
L	Direction	On-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Ε <sub>τ</sub>	ER	f <sub>HV</sub>	fр	v <sub>p</sub> (pcph)	25-2	25-3	1	2	3	$P_{FM}$	(pcph)
M-1	SR-58 EB		No	-													0.593		<del></del>	1.000	3,476
M-2	SR-58 EB	Union Ave SB On	No														0.591			1.000	3,523
M-3	SR-58 EB	Union Ave NB On	No												l		0.593			1.000	3,764
M-4	SR-58 WB	Brundage Ln On	No												l		0.591			1.000	3,070
M-5	SR-58 WB	Union Ave SB On	No												I		0.593			1.000	3,337
M-6	SR-58 WB	H St On	No														0.593			1.000	3,217
M-7	SR-99 NB	White Ln EB On	On	680	457	0.86	Level	1%	0%	1.5	1.2	0.995	1.00	534	-95	3,606	0.588	0.751		0.588	1,502
M-8	SR-99 NB	White Ln WB On	No									•			1,128		0.592			0.592	2,289
M-9	SR-99 NB	Ming Ave On	No												,		0.593			0.183	696
M-10	SR-99 NB	Wible On	No														0.593			0.384	1,357
M-11	SR-99 NB	SR-58 On	No														0.593			0.163	675
M-12	SR-99 NB	California Ave EB On	No														0.592			0.351	1,641
M-13	SR-99 NB	California Ave WB On	No														0.593			0.308	1,658
M-14		Buck Owens Blvd On	No														0.592			0.366	1,293
M-15	SR-99 SB	Airport Dr On	No														0.592			0.088	340
M-16		Rosedale Hwy WB On	No														0.593			0.273	1,396
M-17	SR-99 SB	Rosedale Hwy EB On	No														0.595			0.199	1,313
M-18		California Ave On	No														0.591			0.316	2,064
M-19			No														0.595			0.331	1,732
M-20		Real Rd On	No														0.593			0.311	2,014
M-21		Ming Ave On	No												1,394		0.593	0.831		0.593	3,010
M-22			On	600	138	0.86	Levei	2%	0%	1.5	1.2	0.990	1.00	162	-149	1,071	0.588	0.773		0.588	2,032
M-23	SR-99 SB	White Ln EB On	No												988		0.592			0.592	2,132

HCM 2000 Merge Ramp Junctions Capacity Analysis

General Information Capacity Checks

	Freeway/		VFi	Max v <sub>Fi</sub>		v <sub>FO</sub>	Max v <sub>FO</sub>		V <sub>3</sub> , V <sub>av34</sub>	v <sub>3</sub> , v <sub>av34</sub>	v <sub>3</sub> , v <sub>av34</sub>	V <sub>12a</sub>	V <sub>R12a</sub>	Max v <sub>R12a</sub>	
	Direction	On-ramp	(pcph)	(pcph)	LOS F?	(pcph)	(pcph)	LOS F?	(pcphpl)	> 2,700?	>1.5*v <sub>12</sub> /2?	(pcph)	(pcph)	(pcph)	LOS F?
M-1	SR-58 EB	Chester Ave On	3,476	4,700	No	4,107	4,700	No	0	No	No	3,476	4,107	4,600	No
M-2	SR-58 EB	Union Ave SB On	3,523	4,700	No	3,769	4,700	No	0	No	No	3,523	3,769	4,600	No
M-3	SR-58 EB	Union Ave NB On	3,764	4,700	No	4,039	4,700	No	0	No	No	3,764	4,039	4,600	No
M-4	SR-58 WB	Brundage Ln On	3,070	4,700	No	3,351	4,700	No	. 0	No	No	3,070	3,351	4,600	No
M-5	SR-58 WB	Union Ave SB On	3,337	4,700	No	3,723	4,700	No	0	No	No	3,337	3,723	4,600	No
M-6	SR-58 WB	H St On	3,217	4,700	No	3,732	4,700	No	0	No	No.	3,217	3,732	4,600	No
M-7	SR-99 NB	White Ln EB On	2,555	7,050	No	3,925	7,050	No	1,054	No	No	1,502	2,871	4,600	No
M-8	SR-99 NB	White Ln WB On	3,864	7,050	No	4,398	7,050	No	1,575	No	No	2,289	2,823	4,600	No
M-9	SR-99 NB	Ming Ave On	3,801	9,400	No	5,188	9,400	No	1,552	No	Yes	1,520	2,908	4,600	No
M-10	SR-99 NB	Wible On	3,530	9,400	No	4,159	9,400	No	1,087	No	Yes	1,412	2,042	4,600	No
M-11	SR-99 NB	SR-58 On	4,150	9,400	No	5,499	9,400	No	1,737	No	Yes	1,660	3,009	4,600	No
M-12	SR-99 NB	California Ave EB On	4,676	9,400	No	5,394	9,400	No	1,517	No	Yes	1,870	2,589	4,600	No
M-13	SR-99 NB	California Ave WB On	5,374	9,400	No	5,720	9,400	No	1,858	No	Yes	2,150	2,495	4,600	No
M-14	SR-99 NB	Buck Owens Blvd On	3,534	9,400	No	4,133	9,400	No	1,120	No	Yes	1,414	2,012	4,600	No
M-15	SR-99 SB	Airport Dr On	3,840	9,400	No	5,866	9,400	No	1,750	No	Yes	1,536	3,562	4,600	No
M-16	SR-99 SB	Rosedale Hwy WB On	5,110	9,400	No	6,593	9,400	No	1,857	No	Yes	2,044	3,527	4,600	No
M-17	SR-99 SB	Rosedale Hwy EB On	6,605	9,400	No	8,005	9,400	No	2,646	No	Yes	2,642	4,043	4,600	No
M-18	SR-99 SB	California Ave On	6,536	9,400	No	7,501	9,400	No	2,236	No	Yes	2,615	3,580	4,600	No
M-19	SR-99 SB	SR-58 On	5,225	9,400	No	6,492	9,400	No	1,747	No	Yes	2,090	3,358	4,600	No
M-20	SR-99 SB	Real Rd On	6,464	9,400	No	6,785	9,400	No	2,225	No	Yes	2,586	2,907	4,600	No
M-21	SR-99 SB	Ming Ave On	5,077	7,050	No	5,600	7,050	No	2,067	No	No	3,010	3,533	4,600	No
M-22	SR-99 SB	White Ln WB On	3,453	7,050	No	3,613	7,050	No	1,421	No	No	2,032	2,192	4,600	No
M-23	SR-99 SB	White Ln EB On	3,601	7,050	No	3,763	7,050	No	1,469	No	No	2,132	2,294	4,600	No

HCM 2000 Merge Ramp Junctions Capacity Analysis

Gener	al Informatio	п				Results		Speed Es	timation		
	Freeway/		V <sub>R</sub>	Max v <sub>R</sub>		Density, D	Level of	Int. Var.	Inf. Area	Out Lns.	All vehs.
	Direction	On-ramp	(pcph)	(pcph)	LOS F?	(pcplpm)	Service	Ms	S <sub>R</sub> (mph)	S <sub>O</sub> (mph)	S (mph)
M-1	SR-58 EB	Chester Ave On	630	2,100	No	33.8	D	0.509	53.3	0.0	53.3
M-2	SR-58 EB	Union Ave SB On	247	1,900	No	31.8	D	0.466	54.3	0.0	54.3
M-3	SR-58 EB	Union Ave NB On	275	2,100	No	33.5	D	0.494	53.6	0.0	53.6
M-4	SR-58 WB	Brundage Ln On	281	1,900	No	28.5	D	0.408	55.6	0.0	55.6
M-5	SR-58 WB	Union Ave SB On	386	1,900	- No	31.0	D	0.455	54.5	0.0	54.5
M-6	SR-58 WB	H St On	515	2,100	No	31.0	D	0.435	55.0	0.0	55.0
M-7	SR-99 NB	White Ln EB On	1,370	1,900	No	25.0	C	0.372	56.4	63.0	58.1
M-8	SR-99 NB	White Ln WB On	534	2,100	No	23.9	С	0.339	57.2	61.1	58.6
M-9	SR-99 NB	Ming Ave On	1,388	2,100	No	24.0	C	0.342	57.1	62.7	59.5
M-10	SR-99 NB	Wible On	630	1,900	No	17.7	В	0.324	57.6	63.0	60.2
M-11	SR-99 NB	SR-58 On	1,349	2,200	No	24.8	C	0.338	57.2	62.3	59.4
M-12	SR-99 NB	California Ave EB On	718	1,900	No	22.2	C	0.348	57.0	61.8	59.4
M-13	SR-99 NB	California Ave WB On	345	2,100	No	21.4	C	0.320	57.6	61.0	59.5
M-14	SR-99 NB	Buck Owens Blvd On	599	1,900	No	17.8	В	0.325	57.5	63.0	60.2
M-15	SR-99 SB	Airport Dr On	2,026	2,100	No	29.2	D	0.413	55.5	62.7	58.1
M-16	SR-99 SB	Rosedale Hwy WB On	1,483	1,900	No	28.9	D D	0.427	55.2	61.3	57.9
M-17	SR-99 SB	Rosedale Hwy EB On	1,401	2,100	No	32.4	D	0.486	53.8	59.7	56.6
M-18	SR-99 SB	California Ave On	965	1,900	No	29.9	D	0.436	55.0	59.7	57,4
M-19	SR-99 SB	SR-58 On	1,268	1,900	No	27.3	C	0.403	55.7	61.2	58.2
M-20	SR-99 SB	Real Rd On	321	2,100	No	24.6	Ċ	0.344	57.1	59.8	58.6
M-21	SR-99 SB	Ming Ave On	523	2,100	No	29.3	D	0.405	55.7	59.4	57.0
M-22	SR-99 SB	White Ln WB On	161	1,900	No	20.1	С	0.336	57.3	61.7	58.9
M-23	SR-99 SB	White Ln EB On	162	2,100	No	20.0	C	0.313	57.8	61.5	59.2

HCM 2000 Diverge Ramp Junctions Capacity Analysis Jurisdiction Bakersfield, CA Agency or Company TRIP

Analysis Year Existing (2008) Date 3.3.10

Analyst BP Project Description Centennial Corridor Study

General Information Freeway Data Freeway Volume Adjustment  $\overline{\mathsf{v}}$ SFF Freeway/ Analysis Truck/ Flow Rate Direction Off-ramp Time Period Lanes (mph) (vph) PHF Terrain Bus % RV % Eτ ER fHV v<sub>p</sub> (pcph) D-2 SR-58 EB Union Ave Off PM 2 65.0 3,562 0.92 Level 11% 0.0% 1.5 1.2 0.948 1.00 4.085 D-3 SR-58 WB Brundage Ln Off 2 3,053 0.92 PM 65.0 Level 9% 0.0% 1.5 1.2 0.957 1.00 3,468 D-4 SR-58 WB Chester Ave Off PM 2 65.0 3,296 0.92 Level 8% 0.0% 1.5 1.2 0.962 1.00 3,726 D-5 SR-58 WB SR-99 NB Off PM 2 65.0 3.291 0.92 Level 8% 0.0% 1.5 1.2 0.962 1.00 3.720 D-6 SR-58 WB SR-99 SB Off ΡМ 2 65.0 2,207 0.92 Level 2% 0.0% 1.5 1.2 0.990 1.00 2,423 РМ 3 65.0 2,448 0.90 Level 16% 0.0% 2,938 D-7 SR-99 NB White Ln Off 1.5 1.2 0.926 1.00 D-8 SR-99 NB Ming Ave Off PM 4 65.0 3,722 0.94 Level 12% 0.0% 1.5 1.2 0.943 1.00 4,197 D-9 SR-99 NB SR-58 Off PM 4 65.0 4,534 0.93 Level 10% 0.0% 1.5 1.2 0.952 1.00 5,119 D-10 SR-99 NB California Ave Off PM 65.0 4,742 0.93 Level 13% 0.0% 1.5 1.2 0.939 1.00 5,430 D-11 SR-99 NB Rosedale Hwy Off PM 65.0 4,990 0.92 Level 12% 0.0% 1.5 1.2 0.943 1.00 5,749 D-12 SR-99 NB Buck Owens Blvd Off РМ 65.0 3.230 Levei 15% 0.0% 1.5 1.2 0.930 1.00 3,774 0.92 D-13 SR-99 NB Airport Dr Off PM 65.0 3.405 0.89 Level 15% 0.0% 1.5 1.2 0.930 1.00 4,113 SR-99 SB Rosedale Hwy Off PM 65.0 4,875 0.88 12% 0.0% 1.5 1.2 0.943 5,872 D-14 Level 1.00 SR-99 SB California Ave Off PM 65.0 0.92 10% 0.0% 1.5 1.2 0.952 7,647 D-15 6,700 Level 1.00 PM SR-99 SB SR-58 Off 65.0 6,518 0.92 10% 0.0% 1.5 1.2 0.952 1.00 7,439 D-16 Level D-17 SR-99 SB Ming Ave Off PM 65.0 6,027 0.92 Level 7% 0.0% 1.5 1.2 0.966 1.00 6,780 D-18 SR-99 SB White Ln Off PM 65.0 4,928 0.89 Level 8% 0.0% 1.5 1.2 0.962 1.00 5,759

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	al Informatio	п	Off-Ran	np Data						Off-Ram	p Volume	Adjustment						
l	Freeway/				SFR	V <sub>R</sub>	De	cel Lane	(ft)			Truck/	***					Flow Rate
	Direction	Off-ramp	Туре	Lanes	(mph)	(vph)	L <sub>D1</sub>	$L_{D2}$	L <sub>Deff</sub>	PHF	Terrain	Bus %	RV %	Eτ	ER	$f_{HV}$	f <sub>P</sub>	v <sub>p</sub> (pcph)
D-2	SR-58 EB	Union Ave Off	Right	1	45.0	557	140		140	0.90	Level	12%	0.0%	1.5	1.2	0.943	1.00	656
D-3	SR-58 WB		Right	1	25.0	350	150		150	0.88	Level	5%	0.0%	1.5	1.2	0.976	1.00	408
D-4	SR-58 WB	Chester Ave Off	Right	1	45.0	464	140		140	0.90	Level	2%	0.0%	1.5	1.2	0.990	1.00	521
D-5	SR-58 WB		Right	1	55.0	1,084	160		160	0.90	Level	19%	0.0%	1.5	1.2	0.913	1.00	1,319
D-6	SR-58 WB	SR-99 SB Off	Right	1	25.0	1,124	110		110	0.88	Level	3%	0.0%	1.5	1.2	0.985	1.00	1.296
D-7	SR-99 NB	White Ln Off	Right	1	45.0	338	140		140	0.90	Level	4%	0.0%	1.5	1.2	0.980	1.00	383
D-8	SR-99 NB	Ming Ave Off	Right	1	25.0	403	200		200	0.90	Level	1%	0.0%	1.5	1.2	0.995	1.00	450
D-9	SR-99 NB	SR-58 Off	Right	1	55.0	1,437	140		140	0.92	Level	5%	0.0%	1.5	1.2	0.976	1.00	1.601
D-10	SR-99 NB	California Ave Off	Right	1	45.0	678	140		140	0.90	Level	1%	0.0%	1.5	1.2	0.995	1.00	757
D-11	SR-99 NB	Rosedale Hwy Off	Right	1	45.0	1,760	140		140	0.90	Level	6%	0.0%	1.5	1.2	0.971	1.00	2,014
D-12	SR-99 NB	Buck Owens Blvd Off	Right	1	25.0	304	140		140	0.88	Level	11%	0.0%	1.5	1.2	0.948	1.00	364
D-13	SR-99 NB	Airport Dr Off	Right	1	45.0	1,211	300		300	0.88	Level	4%	0.0%	1.5	1.2	0.980	1.00	1.404
D-14	SR-99 SB	Rosedale Hwy Off	Right	1	45.0	633	140		140	0.92	Level	9%	0.0%	1.5	1.2	0.957	1.00	719
D-15	SR-99 SB	California Ave Off	Right	1	45.0	1.027	140		140	0.92	Level	1%	0.0%	1.5	1.2	0.995	1.00	1,122
D-16	SR-99 SB	SR-58 Off	Right	1	55.0	1,896	160		160	0.92	Level	16%	0.0%	1.5	1.2	0.926	1.00	2,226
D-17	SR-99 SB	Ming Ave Off	Right	1	45.0	1,557	210		210	0.90	Level	1%	0.0%	1.5	1.2	0.995	1.00	1,739
D-18	SR-99 SB	White Ln Off	Right	2	45.0	2,029	140	1,150	1,430	0.88	Level	3%	0.0%	1.5	1.2	0.985	1.00	2,340

HCM 2000 Diverge Ramp Junctions Capacity Analysis

General Information

Adiagast	I Instream	0	D-4-

	Freeway/				Volume			Truck/						Flow Rate
	Direction	Off-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Eτ	ER	f <sub>HV</sub>	f <sub>P</sub>	v <sub>p</sub> (pcph)
D-2	SR-58 EB	Union Ave Off	No											
D-3	SR-58 WB	Brundage Ln Off	No											
D-4	SR-58 WB	Chester Ave Off	No											
D-5	SR-58 WB	SR-99 NB Off	No											
D-6	SR-58 WB	SR-99 SB Off	No											
D-7	SR-99 NB	White Ln Off	No											
D-8	SR-99 NB	Ming Ave Off	No											
D-9	SR-99 NB	SR-58 Off	No											
D-10	SR-99 NB	California Ave Off	No											
D-11	SR-99 NB	Rosedale Hwy Off	No	•										
D-12	SR-99 NB	Buck Owens Blvd Off	No											
D-13	SR-99 NB	Airport Dr Off	No											
D-14	SR-99 SB	Rosedale Hwy Off	No											
D-15	SR-99 SB	California Ave Off	No						*					
D-16	SR-99 SB	SR-58 Off	No											
D-17	SR-99 SB	Ming Ave Off	No											
D-18		White Ln Off	On	5,270	458	0.95	Level	1%	0.0%	1.5	1.2	0.995	1.00	485

## HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	ral Informatio	п	Adjacent	Downstream	Ramp Da	ata									V 12 Est	imation		
	Freeway/				Volume			Truck/				······································		Flow Rate		EQ		V <sub>12</sub>
	Direction	Off-ramp	Exists?	Distance	(vph)	PHF	Terrain	Bus %	RV %	Ε <sub>τ</sub>	$E_R$	f <sub>HV</sub>	fР	v <sub>p</sub> (pcph)	25-13	25-14	$P_{FD}$	(pcph)
D-2	SR-58 EB	Union Ave Off	No														1.000	4,085
D-3	SR-58 WB	Brundage Ln Off	No														1.000	3,468
D-4	SR-58 WB	Chester Ave Off	No														1.000	3,726
D-5	SR-58 WB	SR-99 NB Off	No														1.000	3,720
D-6	SR-58 WB	SR-99 SB Off	No														1.000	2,423
D-7	SR-99 NB	White Ln Off	On	1.250	1,155	0.86	Level	4.0%	0.0%	1.5	1.2	0.980	1.00	1,370		1,498	0.669	
D-8	SR-99 NB	Ming Ave Off	No	-,	.,	0.00	20.0.	4.070	0.070	1.0	1,2	0,300	1.00	1,370		1,450	0.436	2,092
D-9	SR-99 NB	SR-58 Off	No														0.436	2,084
D-10	SR-99 NB	California Ave Off	No															3,135
D-11		Rosedale Hwy Off	No														0.436	2,795
D-12		Buck Owens Blvd Off	No														0.436	3,643
D-13		Airport Dr Off	No														0.436	1,851
D-14		Rosedale Hwy Off	No														0.436	2,585
D-15		California Ave Off	No														0.436	2,966
D-16	SR-99 SB	- ···- ·· ·	No														0.436	3,967
D-17		Ming Ave Off	No														0.436	4,499
D-18		White Ln Off	On	1,520	139	0.87	Level	1.0%	0.0%	4 =	4.0	0.005	1.00	464	40.000	4 570	0.436	3,937
200000	C.1.00 GB	TTIMO EII OII	, 011	1,520	108	0.07	revei	1.0%	0.0%	1.5	1.2	0.995	1.00	161	18,936	1,572	0.450	3,878

HCM 2000 Diverge Ramp Junctions Capacity Analysis

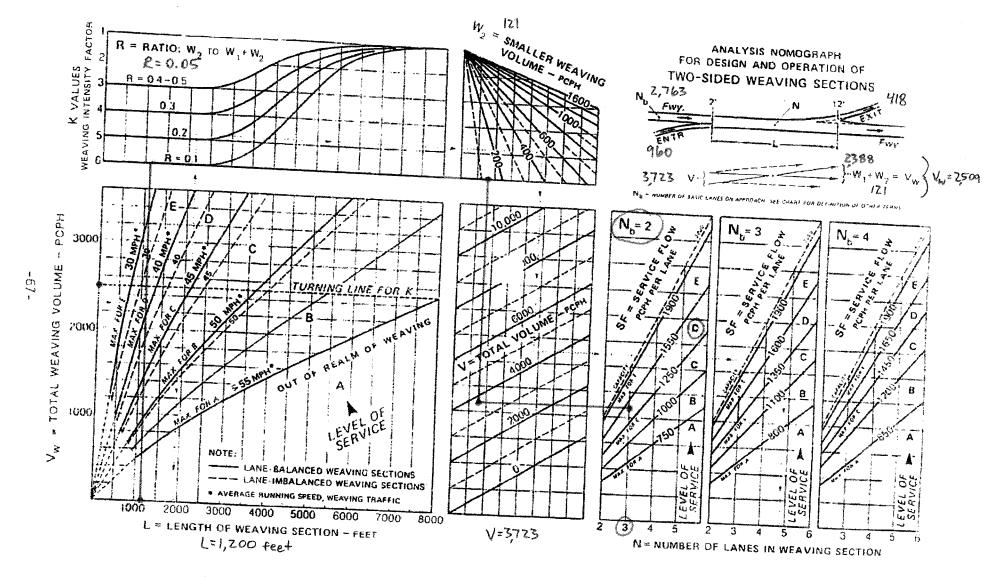
Capacity Checks General Information Max V<sub>12</sub> Max v<sub>FO</sub> Max v<sub>FI</sub> V<sub>3</sub>, V<sub>av34</sub> v<sub>3</sub>, v<sub>av34</sub> V3, Vav34 V<sub>12a</sub>  $v_{FO}$ Freeway/  $v_{Fi}$ LOS F? (pcphpl) > 2,700? >1.5\*v<sub>12</sub>/2? (pcph) (pcph) LOS F? (pcph) (pcph) LOS F? Direction Off-ramp (pcph) (pcph) 4,085 4,400 No 3,429 4,700 No D-2 SR-58 EB Union Ave Off 4,085 4,700 No No No 3,468 No 3,468 4,400 No 3,060 4,700 No D-3 SR-58 WB Brundage Ln Off 4,700 No No 3,726 4,400 No 3,205 4,700 No 3,726 4,700 No D-4 SR-58 WB Chester Ave Off No No 3,720 4,400 No 2,401 4,700 D-5 SR-58 WB SR-99 NB Off 3,720 4,700 No No No No D-6 SR-58 WB SR-99 SB Off 2.423 4,700 No No No 2,423 4,400 No 1,126 4,700 No No No 2,092 4.400 .No 2.555 7,050 No D-7 SR-99 NB White Ln Off 2,938 7,050 No 846 2.084 4,400 No 3,747 9,400 No 4,197 9,400 No 1,057 No No D-8 SR-99 NB Ming Ave Off 9,400 No 9,400 No 992 No No 3,135 4,400 No 3,518 D-9 SR-99 NB SR-58 Off 5,119 5,430 9,400 No 1,318 No No 2,795 4,400 No 4,673 9.400 No D-10 SR-99 NB California Ave Off No 3,643 4,400 No 3,735 9.400 No No 1,053 No D-11 SR-99 NB Rosedale Hwy Off 5,749 9,400 No 9,400 No No 1,851 4,400 3,410 D-12 SR-99 NB Buck Owens Blvd Off 3,774 9,400 No 962 No 4,400 2,585 No 2,709 9,400 No D-13 SR-99 NB Airport Dr Off 4.113 9.400 No 764 No No 9,400 4,400 No 5,153 No D-14 SR-99 SB Rosedale Hwy Off 5.872 9.400 No 1,453 No No 2,966 9,400 D-15 SR-99 SB California Ave Off 7,647 9,400 No 1.840 No No 3,967 4,400 No 6,525 No 7,439 4,400 Yes 5,213 9,400 No 9,400 No 1,470 No No 4,499 D-16 SR-99 SB SR-58 Off 5,042 9,400 No 1,422 No No 3,937 4,400 No D-17 SR-99 SB Ming Ave Off 6,780 9,400 No 3,418 7,050 No D-18 SR-99 SB White Ln Off 5,759 7,050 No 1,880 No 3,878 4,400 No

HCM 2000 Diverge Ramp Junctions Capacity Analysis

Gener	al Informatio	п				Results		Speed Es	timation		
	Freeway/		V <sub>R</sub>	Max v <sub>R</sub>		Density, D	Level of	Int. Var.	Inf. Area	Out Lns.	All vehs.
	Direction	Off-ramp	(pcph)	(pcph)	LOS F?	(pcplpm)	Service	Ds	S <sub>R</sub> (mph)	So (mph)	S (mph)
D-2	SR-58 EB	Union Ave Off	656	2,100	No	38.1	E	0.357	56.8	0.0	56.8
D-3	SR-58 WB	Brundage Ln Off	408	1,900	No	32.7	D	0.595	51.3	0.0	51.3
D-4	SR-58 WB	Chester Ave Off	521	2,100	No	35.0	Ē	0.345	57.1	0.0	57,1
D-5	SR-58 WB	SR-99 NB Off	1,319	2,200	No	34.8	D	0.287	58.4	0.0	58.4
D-6	SR-58 WB	SR-99 SB Off	1,296	1,900	No	24.1	C	0.675	49.5	0.0	49.5
D-7	SR-99 NB	White Ln Off	383	2,100	No	21.0	С	0.332	57.4	71.3	60.8
D-8	SR-99 NB	Ming Ave Off	450	1,900	No	20.4	C	0.599	51.2	71.1	59.6
D-9	SR-99 NB	SR-58 Off	1,601	2,200	No	30.0	D	0.312	57.8	71.3	62.4
D-10	SR-99 NB	California Ave Off	757	2,100	No	27.0	С	0.366	56.6	70.1	62.4
D-11	SR-99 NB	Rosedale Hwy Off	2,014	2,100	No	34.3	D	0.479	54.0	71.1	59.2
D-12	SR-99 NB	Buck Owens Blvd Off	364	1,900	No	18.9	В	0.591	51.4	71.3	59.9
D-13	SR-99 NB	Airport Dr Off	1,404	2,100	No	23.8	C	0.424	55.2	71.3	60.3
D-14	SR-99 SB	Rosedale Hwy Off	719	2,100	No	28.5	D	0.363	56.7	69.5	62.4
D-15	SR-99 SB	California Ave Off	1,122	2,100	No	37.1	E	0.399	55.8	68.0	61.1
D-16	SR-99 SB	SR-58 Off	2,226	2,200	Yes		F	0.368	56.5	69.5	61.0
D-17	SR-99 SB	Ming Ave Off	1,739	2,100	No	36.2	Ε	0.454	54.5	69.7	60.0
D-18	SR-99 SB	White Ln Off	2,340	4,100	No	24.7	Ċ	0.509	53.3	67.9	57.3

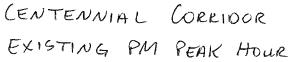
## **ATTACHMENT 2 – LEISCH METHOD CALCULATIONS**

EASTBOUND SR 58 SR 99 TO H STREET

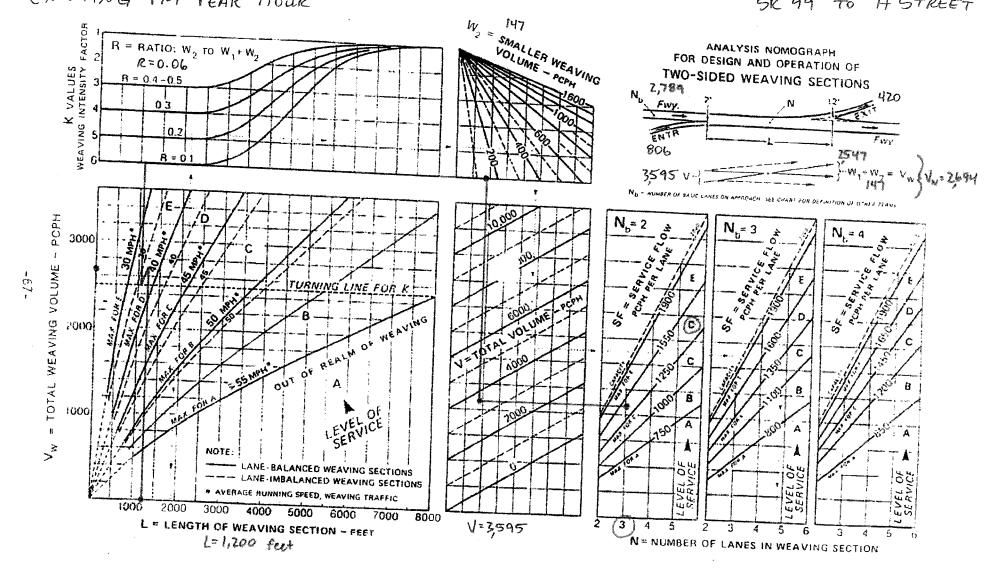


NOMOGRAPH FOR DESIGN AND ANALYSIS OF WEAVING SECTIONS -TWO-SIDED CONFIGURATIONS

NOMOGRAPH 2



EASTBOUND SR 58 SR 99 TO H STREET



NOMOGRAPH FOR DESIGN AND ANALYSIS OF WEAVING SECTIONS -TWO-SIDED CONFIGURATIONS

NOMOGRAPH 2

## **ATTACHMENT 3 - HCS+ SAMPLE RESULTS**

		,	
,			

Phone: Fax: E-mail: \_\_\_\_\_Operational Analysis\_\_\_\_\_\_ Analyst: BP
Agency or Company: Fehr & Peers
Date Performed: 4/21/2010 Analyst: Analysis Time Period: AM Peak Hour
Freeway/Direction: SR-58 Eastbound
From/To: Chester Avenue to Union Avenue
Jurisdiction: Bakersfield
Analysis Year: Existing Description: Centennial Corridor Study \_\_\_\_\_Flow Inputs and Adjustments\_\_\_\_\_ 3618 veh/h Volume, V Peak-hour factor, PHF 0.92 983 Peak 15-min volume, v15 v 10 Trucks and buses 용 Recreational vehicles 0 Level Terrain type: 0.00 Grade mi 0.00 Segment length Trucks and buses PCE, ET 1.5 Recreational vehicle PCE, ER 1.2 Heavy vehicle adjustment, fHV 0.952 Driver population factor, fp 1.00 pc/h/ln Flow rate, vp 2065 \_\_\_\_\_Speed Inputs and Adjustments\_\_\_\_\_ 12.0 6.0 0.50 ft Lane width Right-shoulder lateral clearance ft interchange/mi Interchange density Number of lanes, N 2 Free-flow speed: Measured FFS or BFFS 65.0 mi/h Lane width adjustment, fLW 0.0 mi/h Lateral clearance adjustment, fLC 0.0 mi/h Interchange density adjustment, fID 0.0 mi/h 4.5 65.0 Number of lanes adjustment, fN 4.5 mi/h Free-flow speed, FFS mi/h Urban Freeway LOS and Performance Measures\_\_\_\_\_ pc/h/ln 2065 Flow rate, vp Free-flow speed, FFS 65.0 mì/h 60.3 Average passenger-car speed, S mi/h Number of lanes, N 2

Density, D

34.3 pc/mi/ln

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: . Fax: E-mail: Merge Analysis\_\_\_\_\_ BP Analyst: BP
Agency/Co.: Fehr & Peers
Date performed: 4/21/2010 Analyst: Analysis time period: AM Peak Hour Freeway/Dir of Travel: SR-58 Westbound Junction: H Street
Jurisdiction: Bakersfield
Analysis Year: Existing Description: Centennial Corridor Study \_\_\_\_\_Freeway Data\_\_\_\_\_ Type of analysis Merge Number of lanes in freeway 2 65.0 mph 2622 vph Free-flow speed on freeway Volume on freeway On Ramp Data\_\_\_\_ Right Side of freeway Number of lanes in ramp Free-flow speed on ramp mph vph 45.0 333 Volume on ramp Length of first accel/decel lane 540 ft Length of second accel/decel lane ft. \_\_\_\_\_Adjacent Ramp Data (if one exists)\_\_\_\_\_ Does adjacent ramp exist? No Volume on adjacent Ramp vph Position of adjacent Ramp Type of adjacent Ramp ft. Distance to adjacent Ramp \_\_\_\_\_Conversion to pc/h Under Base Conditions\_\_\_\_ Freeway Ramp Adjacent Junction Components Ramp 333 2622 Volume, V (vph) vph 0.90 93 Peak-hour factor, PHF 0.88 745 Peak 15-min volume, v15 v 15 4 용 Trucks and buses 0 Recreational vehicles 용 Level Level Terrain type: % mi Grade 용 Length mi mi Trucks and buses PCE, ET 1.5\* 1.5
Recreational vehicle PCE, ER 1.2 1.2

```
Driver population factor, fP
                                       1.00
                                                   1.00
Flow rate, vp
                                       3203
                                                   377
                                                                         pcph
                      ____Estimation of V12 Merge Areas__
                                  (Equation 25-2 or 25-3)
                   ΕQ
                  P =
                          1.000
                                Using Equation 0
                   FM
                         (P) = 3203
                  v = v
                                          pc/h
                   12
                       \mathbf{F}
                          FM
                          ____Capacity Checks__
                           Actual
                                         Maximum
                                                         LOS F?
     v
                           3580
                                         4700
                                                         No
      FΟ
                                pc/h
                                        (Equation 25-4 or 25-5)
      3 or av34
Ιs
                  > 2700 pc/h?
                                         Νo
      3 or av34
                  > 1.5 v /2
Ιs
           v
                                         No
      3 or av34
                         12
If yes, v
           = 3203
                                         (Equation 25-8)
         12A
                       __Flow Entering Merge Influence Area_
                      Actual
                                   Max Desirable
                                                          Violation?
                      3203
                                    4600
     v
                                                          No
     R12
             ____Level of Service Determination (if not F)____
Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 29.8
                                                                       pc/mi/ln
                                         12
Level of service for ramp-freeway junction areas of influence D
                        _____Speed Estimation__
Intermediate speed variable,
                                             M = 0.412
```

S

R

0

S = 55.5

S = N/A

S = 55.5

mph

mph

mph

0.930

0.980

Heavy vehicle adjustment, fHV

Space mean speed in ramp influence area,

Space mean speed in outer lanes,

Space mean speed for all vehicles,

Fax: Phone: E-mail: \_\_\_\_\_Diverge Analysis\_\_\_\_\_ Analyst: Analyst: BP
Agency/Co.: Fehr & Peers
Date performed: 4/21/2010 Analysis time period: AM Peak Hour Freeway/Dir of Travel: SR-58 Eastbound Junction:

Jurisdiction:

Analysis Year:

Union Avenue
Bakersfield
Existing Description: Centennial Corridor Study \_\_\_\_\_Freeway Data\_\_\_\_\_\_ Type of analysis Diverge Number of lanes in freeway 2 65.0 mph 3618 vph Free-flow speed on freeway Volume on freeway Off Ramp Data\_\_\_\_\_ Right Side of freeway Number of lanes in ramp .1 Free-Flow speed on ramp mph 45.0 821 · Volume on ramp vph Length of first accel/decel lane 140 ft Length of second accel/decel lane ft \_\_\_\_\_Adjacent Ramp Data (if one exists)\_\_\_\_\_ Does adjacent ramp exist? No Volume on adjacent ramp vph Position of adjacent ramp Type of adjacent ramp ft Distance to adjacent ramp \_\_\_\_\_Conversion to pc/h Under Base Conditions\_\_\_\_\_ Junction Components Freeway Ramp Adjacent Ramp 821 0.90 228 3618 Volume, V (vph) vph Peak-hour factor, PHF 0.9∠ 983 0.92 Peak 15-min volume, v15 v 4 Trucks and buses 용 0 Recreational vehicles Level Level 0.00 % 0.00 % 0.00 mi Terrain type:

mi

mi

1.5 1.2

Grade

Length

Trucks and buses PCE, ET 1.5
Recreational vehicle PCE, ER 1.2

pcph

```
____Estimation of V12 Diverge Areas___
                  L
                                  (Equation 25-8 or 25-9)
                   ΕQ
                  P =
                          1.000
                                Using Equation 0
                   FD
                         + (v - v) P = 4129
                                                 pc/h
                        R
                   12
                            F R FD
                        _____Capacity Checks_
                           Actual
                                        Maximum
                                                        LOS F?
     v = v
                           4129
                                         4700
                                                        No
      Γi
          F
                           3199
                                         4700
                                                        No
      FΟ
           F
               R
     v
                           930
                                        2100
                                                        Νo
      R
     v
                           0
                                pc/h
                                        (Equation 25-15 or 25-16)
      3 or av34
                  > 2700 pc/h?
Ιs
           v
                                        Νo
      3 or av34
Ιs
                  > 1.5 v /2
                                        No
      3 or av34
                        12
If yes, v
           = 4129
                                         (Equation 25-18)
         12A
                     _Flow Entering Diverge Influence Area_
                     Actual
                                   Max Desirable
                                                         Violation?
                      4129
    ν
                                   4400
      12
                Level of Service Determination (if not F)____
Density,
                      D = 4.252 + 0.0086 v - 0.009 L
                                                       = 38.5 pc/mi/ln
                                          12
Level of service for ramp-freeway junction areas of influence E
                    _____Speed Estimation___
Intermediate speed variable,
                                            D = 0.382
                                             S
Space mean speed in ramp influence area,
                                            S = 56.2
                                                         mph
                                             R
Space mean speed in outer lanes,
                                            S = N/A
                                                         mph
                                             0
Space mean speed for all vehicles,
                                            S = 56.2
                                                         mph
```



## **TECHNICAL MEMORANDUM**

Date:

December 3, 2010

To:

Steve McDonald and Koko Widyatmoko, Caltrans

Steve Crouch, TRIP Corridor Manager Curt Hatton, Caltrans Project Manager Ravi Puttagunta, TRIP PMC (Parsons) Jim Billings and Traci Gleason, HNTB

From:

Rob Hananouchi, Bill Penney, and Fred Choa, Fehr & Peers

Subject:

Centennial Corridor - Existing AM and PM Peak Hour Analysis Results

for 54 Study Intersections

Updated Based on TRIP/Caltrans Comments

RS08-2569

The purpose of this technical memorandum is to present the Existing AM and PM peak hour analysis results for the 54 study intersections included in the Centennial Corridor Project Traffic Operations Report. Based on comments received on the April 14, 2010 submittal, we have made appropriate updates to the existing intersections. This submittal includes the following data:

- 1) Responses to the comments received on the April 14, 2010 submittal
- 2) Existing AM peak hour Synchro output timings and HCS analysis
- 3) Existing PM peak hour Synchro output timings and HCS analysis

#### Level of Service Analysis Methodology

The operations of roadway facilities are described with the term level of service (LOS). LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, with the least congested operating conditions, to LOS F, with the most congested operating conditions. LOS E represents "atcapacity" operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

The level of service method for signalized intersections analyzes intersection operations based on average control vehicular delay, as described in Chapter 16 of the 2000 Highway Capacity Manual (HCM) by the Transportation Research Board. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using the Synchro 6 analysis software and is correlated to LOS designations.

According to the Metropolitan Bakersfield General Plan, the City of Bakersfield strives to maintain a LOS C at its facilities. Caltrans District 6 aims to maintain a level of service at the LOS C/D cusp threshold (i.e., LOS C) for State facilities.



### Existing Intersection AM and PM Peak Hour Operations Analysis

The following sections discuss the Synchro model development process used to determine existing intersection operations.

## Synchro Model Development

An AM and PM peak hour Synchro model was developed for the study intersections. The Synchro models were coded with the peak hour volumes, posted speed limit, and signal timings. Traffic signal-related information such as phasing and initial timings (minimum greens, maximum green, gap, etc.) for signalized intersections was obtained from the respective agencies and municipalities. Additional detail such as lane geometries and turn pocket lengths was coded based on field observation.

#### Model Parameter Adjustments

Default peak hour factor, right-turn on red reductions, and truck percentages were adjusted to reflect field observations.

## **Peak Hour Factor Assumptions**

For the existing conditions analysis, peak hour factors (PHF) were coded into Synchro for each intersection approach as requested by Caltrans / TRIP at our traffic meeting held at Caltrans District 6 offices in Fresno. The PHF for each intersection approach were calculated from the intersection count sheets.

## Right-Turn on Red Assumptions

The Synchro software calculates right-turn on red reductions (RTOR) based on the HCM gap acceptance formula for right-turns. To reflect discussions with Caltrans / TRIP, the following manual adjustments to RTOR were coded into Synchro:

- For shared right-turn lanes, the RTOR was manually adjusted to 0%.
- For right-turns with a total right-turning volume less than or equal to 100 vehicles, the RTOR was unadjusted.
- For right-turns with a volume greater than 100 vehicles and a Synchro calculated RTOR greater than 30%, the RTOR was manually adjusted to 30%.
- For right-turns with a volume greater than 100 vehicles and a Synchro calculated RTOR less than 30%, the RTOR was unadjusted.

These manual adjustments were based on field observations and the resulting Synchro delay results compared by the project team for reasonableness and consistency to field observations.

## Intersection Analysis Results

The results of the intersection LOS calculations for Existing Conditions are presented in Table 1 for AM Peak Hour Conditions and Table 2 for PM Peak Hour Conditions. Attachment 2 contains the corresponding calculation sheets from Synchro 6 as well as delay and LOS by approach.

Should you have any questions, please feel free to contact either Fred Choa or Bill Penney.

## Table 1 - Existing AM Conditions (Updated 12.3.10) Intersection Level of Service Analysis

				Signal Cycle	ЕВ Ар		WB Ap	proach	NB Ap	proach	SB Ap	proach	Inters	ection
	East-West Street	North-South Street	Control	Length (sec)	Delay <sup>2</sup>	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	SR 99 SB Ramps	Airport Drive / State Road	Signalized	U - 133.8 (111.8)	46.3	D	41.9	D	24.9	С	39.0	D	35.9	а
2	SR 99 NB Ramps	Airport Drive / Buck Owens Boulevard	Signalized	U - 85.3 (61.4)			22.1	C	5.9	Α			8.8	Α
3	Rio Mirada Drive	Buck Owens Boulevard	Signalized	U - 92.1 (56.7)	64.0	E	10.3	В	18.6	В	21.6	С	43.7	D
4	SR 99 NB Ramps	Buck Owens Boulevard / Sillect Avenue	Signalized	U - 152.7 (99.6)	43.1	D	44.3	D	33.3	С	37.0	D	38.9	a
5	Rosedale Highway	Allen Road	Signalized	U - 137.4 (107.3)	36.3	D	31.7	С	42.4	D	40.3	D	37.3	a
6	Rosedale Highway	Calloway Drive	Signalized	C - 140.0	84.9	F	45.5	D	69.7	Е	67.0	E	69.0	E
7	Rosedale Highway	Coffee Road	Signalized	C - 140.0	119.2	F	33.8	С	72.6	Е	52.5	D	75.7	E
8	Rosedale Highway	Mohawk Street	Unsignalized		0.0	Α	52.9	F	62.4				62.4	F
9	Rosedale Highway	Camino del Rio Court	Signalized	C - 140.0	23.6	С	18.8	В	185.2	F	62.8	Е	28.6	С
10	Rosedale Highway	SR 99 SB Ramps	Signalized	C - 140.0	3.3	Α	1.9	A		· · · · · · · · · · · · · · · · · · ·	356.3	F	41.0	D
11	Rosedale Highway	SR 99 NB Ramps	Signalized	C - 140.0	30.9	С	68.3	Е	52.0	D	46.0	D	50.9	ā
12	24th Street	Oak Street	Signalized	C - 159.4	110.4	F	74.9	E	59.9	E	87.8	F	89.4	F
19	Brimhall Road	Allen Road	Signalized	U - 115.0 (65.3)	21.4	С	19.1	В	18.8	В	23.8	·	21,2	С
22	Stockdale Highway	Allen Road	Signalized	U - 137.0 (109.8)	41.0	D	33.8	C	42.9	D	40.4	D	39.0	D
23	Brimhall Road	Calloway Drive	Signalized	U - 135.0 (95.9)	34.0	C	30.1	C	31.4	C	31.4	С	31.9	c
26	Stockdale Highway	Calloway Drive / Old River Road	Signalized	C - 108.0	29.9	C	29.1	C	43.1	D	41.6	D	36.1	D
27	Brimhall Road	Coffee Road	Signalized	U - 112.7 (94.3)	32.6	c	42.8	D	33.3	C	111.7	F	60.1	E
29	Truxtun Avenue	Coffee Road	Signalized	C - 108.0			39.4	D	74.0	E	70.8	E	67.2	E
30	Stockdale Highway	Coffee Road	Signalized	C - 108.0	115.4	F	160.9	F	103.3	F	78.6	E	112.0	F
35	Truxtun Avenue	Mohawk Street	Signalized	C - 108.0	24.2	Ċ	28.7	C	46.0	D	, 0.0		29.0	С
36	California Avenue	Mohawk Street	Signalized	C - 108.0	41.4	D	57.8	E	23.4	C	34.5	С	30.5	C
37	Stockdale Highway	California Avenue	Signalized	C - 108.0	44.1	D	81.5	F	54.1	D	45.7	D	55.9	E
38	Truxtun Avenue	Oak Street	Signalized	C - 108.0	58.0	E	49.4	D	31.3	C	30.4	C	43.3	
39	California Avenue	Chester Lane	Signalized	C - 108.0	10.6	В	15.7	В	57.6	E	45.3	D	17.5	В
40	SR 99 SB Ramps	California Avenue / Real Road	Signalized	C - 108.0	26.3	c	17.5	В	103.6	F	89.2	F	49.2	D
41	SR 99 NB Ramps	California Avenue	Signalized	C - 108.0	14.7	В	145.8	F	90.7	F	101.6	F	74.8	E
42	California Avenue	Oak Street	Signalized	C - 108.0	51.4	D	31.4	- Č	49.2	D	31.8	Č	44.1	<u> </u>
46	California Avenue	Union Avenue	Signalized	U - 112.7 (102.6)	36.8	D	40.5	D	77.8	E	30.5	C	50.0	ם
47	Stockdale Highway	Real Road	Signalized	C - 108.0	93.0	F	35.4	D	165.3	F	111.9	F	95.8	F
48	SR 99 SB Ramps	Stockdale Highway	Signalized	C - 108.0	0.5	A	6.9	A	100.0		46.9	, D	12.2	В
49	Stockdale Highway / Brundage Lane	Oak Street / Wible Road	Signalized	C - 108.0	5.0	A	37.2	^	39.1	D	52.4	D	28.9	C
50	SR 58 EB/WB Ramps	Real Road	Signalized	U - 159.4 (104.0)	3.0	<del>- ^-</del>	19.5	В	38.5	D	27.3	C	27.0	C
51	SR 99 NB Ramps	Wible Road	Signalized	U - 107.8 (70.9)	23.1	С	19.5		14.7	В	20.3	C	17.9	В
52	Brundage Lane	H Street	Signalized	C - 82.0	37.0	D	27.5	С	11.0	В	21.3	C	20.7	C
53	SR 58 WB Ramps	H Street	Signalized	C - 82.0	-07.0		23.8		1.4	Ā	50.7	<u>U</u>	17.1	В
54	SR 58 EB Ramps	H Street	Signalized	C - 82.0	41.6	D	20.0		54.0	D	6.1	A	41.1	a
55	Brundage Lane	Chester Avenue	Signalized	C - 82.0	18.4	В	37.9	D	17.2	В	18.8	B	21.0	C
56	SR 58 WB Ramps	Chester Avenue	Signalized	C - 82.0	10.7		42.1	D	2.3	Ā	16.7	В	18.0	В
57	SR 58 EB Ramps	Chester Avenue	Signalized	C - 82.0	50.7	D	72.1		28.2	Ĉ	7.1	A	28.9	C
l	Brundage Lane	Union Avenue	Signalized	U - 112.2 (89.9)	40.6	D	35.9	D	54.2	D	26.9	C	42.1	
	SR 58 WB Ramps	Union Avenue / Brundage Lane	Signalized	U - 103.3 (65.6)	19.0	В	20.0	C	18.2	В	29.8	C	19.7	В
	SR 58 EB Ramps	Union Avenue	Signalized	U - 59.1 (55.5)	25.4	c	20.0		13.6	В	11.9	В	16.2	В
61	Ming Avenue	New Stine Road	Signalized	C - 108.0	76.9	E	40.9	D	46.9	D	36.1	D	56.5	E
62	Ming Avenue	Real Road	Signalized	C - 108.0	23.0	C	16.4	В	45.9	D	51.8	D	25.4	C
63	SR 99 SB Ramps	Ming Avenue	Signalized <sup>4</sup>	C - 108.0	1.9	Ā	6.6	A	1.4	A	5.1	A	3.4	Ā
	Ming Avenue	Wible Road	Signalized	C - 108.0	85.6	F	14.0	B	46.7		45.3	D	61.3	E
	SR 99 NB Ramps	Ming Avenue	Signalized	C - 108.0	10.9	В	45.8	D	50.6	D	74.8	E	26.7	c
66	Ming Avenue	Castro Lane	Signalized	C - 108.0	11.0	В	10.6	В	48.6	D	57.6	E	16.7	В
67	Ming Avenue	H Street	Signalized	C - 82.0	41.0	D	37.6	D	21.1	Ç	17.7	В	29.6	C
68	Ming Avenue	Chester Avenue	Signalized	U - 113.2 (63.9)	26.4	C	23.9	C	22.5	C	20.9	С	23.7	
69	White Lane	Wible Road	Signalized	C - 108.0	76.8	E	35.1	. D	47.7	D	53.2	D	23.7 54.7	D
	SR 99 SB Ramps	White Lane	Signalized	U - 90.0 (84.5)	24.7	C	16.5	В	<del>  "'.'</del>		21.2	С	22.3	C
71	SR 99 NB Ramps	White Lane	Signalized	U - 55.1 (61.1)	5.5		2.8	A	20.3	С	Z1.Z	<u> </u>	5.4	A
72	White Lane	Hughes Lane	Signalized	C - 108.0	26.8	C	35.3	D	49.2	<u> </u>	46.2	D	35.9	D
- <u>'</u> -	Willia Lane	Inagnes Lane	Signalized	0 - 106.0	20.0		00.0	U	1 43.2	ע ו	40.2	ט	30.8	

Notes: 1 "U" denotes an actuated-uncoordinated signal. "C" denotes an actuated-coordinated signal. For both uncoordinated and coordinated traffic signals, the value provided indicates the cycle length as given in the signal timing sheets. For uncoordinated signals, the number in parenthesis is the average cycle length as calculated by Synchro.

<sup>4</sup> This signal was installed after the counts were collected.

Bold font and shading indicates unacceptable intersection operations based on the LOS C standard. LOS F conditions are highlighted in bold and red font.

Source: Fehr & Peers, 2010

<sup>&</sup>lt;sup>2</sup> For signalized and all-way stop-controlled intersections, the overall average intersection delay is reported in seconds per vehicle. For side-street stop control, the average control delay for the movement with the greatest delay is reported in seconds

<sup>&</sup>lt;sup>3</sup> Level of Service (LOS) based on *Highway Capacity Manual* (Transportation Research Board, 2000) methodology and Synchro 6.0 analysis software.

### Table 2 - Existing PM Conditions (Updated 12.3.10) Intersection Level of Service Analysis

				Signal Cycle	EB Ap	proach	WB Ap	proach	NB Ap	proach	SB Ap	oroach	Inters	ection
	East-West Street	North-South Street	Control	Length (sec)	Delay <sup>2</sup>	LOS <sup>3</sup>	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	SR 99 SB Ramps	Airport Drive / State Road	Signalized	U - 133.8 (118.9)	52.5	D	53.9	D	28.0	С	43.1	D	42.5	D
2	SR 99 NB Ramps	Airport Drive / Buck Owens Boulevard	Signalized	U - 85.3 (77.4)			31.3	С	14.6	В			21.9	c
3	Rio Mirada Drive	Buck Owens Boulevard	Signalized	U - 92.1 (59.7)	13.0	В	15.4	В	20.2	С	23.5	С	17.8	В
4	SR 99 NB Ramps	Buck Owens Boulevard / Sillect Avenue	Signalized	U - 152.7 (107.5)	46.3	D	46.2	D	30.9	С	36.2	D	37.5	D
5	Rosedale Highway	Allen Road	Signalized	U - 137.4 (133.0)	56.9	E	114.6	F	73.3	Е	48.8	D	76.9	E
6	Rosedale Highway	Calloway Drive	Signalized	C - 140.0	46.8	D	44.9	D	197.2	F	110.7	F	91.0	F
7	Rosedale Highway	Coffee Road	Signalized	C - 140.0	64.0	E	74.4	Е	61.8	E	57.1	E	65.7	Ė
88	Rosedale Highway	Mohawk Street	Unsignalized	**	0.0	Α	18.2	C	53.2	-	07.1		53.2	F
9	Rosedale Highway	Camino del Rio Court	Signalized	C - 140.0	29.6	С	25.9	С	171.5	F	81.3	F	37.0	Ġ
10	Rosedale Highway	SR 99 SB Ramps	Signalized	C - 140.0	3.0	Α	5.0	Α		<u> </u>	389.0	F	44.5	D
11	Rosedale Highway	SR 99 NB Ramps	Signalized	C - 140.0	62.8	Е	108.3	F	150.3	F	207.8	F	125.6	F
12	24th Street	Oak Street	Signalized	C - 159.4	81.3	F	127.0	F	84.7	F	88.2	F	100.3	F
19	Brimhall Road	Allen Road	Signalized	U - 115.0 (52.3)	17.5	В	17.0	В	17.9	В	25.0	Ċ	19.9	В
22	Stockdale Highway	Allen Road	Signalized	U - 137.0 (81.1)	24.2	C	26.6	C	33.0	c	28.8	C	27.0	C
23	Brimhall Road	Calloway Drive	Signalized	U - 135.0 (76.6)	25.3	c	26.9	C	25.3	С	24.1	c	25.4	C
26	Stockdale Highway	Calloway Drive / Old River Road	Signalized	C - 108.0	45.9	D	35.0	D	41.3	D	32.8		38.5	D
27	Brimhall Road	Coffee Road	Signalized	U - 112.7 (78.1)	30.5	c	31.5	C	114.8	F	40.6		72.7	E
29	Truxtun Avenue	Coffee Road	Signalized	C - 108.0	1		107.5	F	57.4	E	69.2	E	81.2	F
30	Stockdale Highway	Coffee Road	Signalized	C - 108.0	64.6	E	196.3	F	80.5	F	45.2		90.2	F
35	Truxtun Avenue	Mohawk Street	Signalized	C - 108.0	28.3	C	39.2	D	63.4	E	45.2		41.5	D
36	California Avenue	Mohawk Street	Signalized	C - 108.0	40.5	D	70.7	E	24.4	C	32.3	C	34.3	C
37	Stockdale Highway	California Avenue	Signalized	C - 108.0	84.2	F	100.2	F	42.7	D	87.1		81.9	F
38	Truxtun Avenue	Oak Street	Signalized	C - 108.0	81.9	F	62.5	Ē	32.7	C	107.2	F	-	
39	California Avenue	Chester Lane	Signalized	C - 108.0	24.1	- c	17.3	В	54.7	D	59.2	<u>r</u>	74.4	E
40	SR 99 SB Ramps	California Avenue / Real Road	Signalized	C - 108.0	47.8	D	41.7	D	92.4	F	55.4	<u>E</u>	27.8	C D
41	SR 99 NB Ramps	California Avenue	Signalized	C - 108.0	3.6	A	13.9	В		F		F F	49.9	
	California Avenue	Oak Street	Signalized	C - 108.0	77.0	E	37.6	D	91.5	E	218.3	<u>r</u>	25.1	C E
	California Avenue	Union Avenue	Signalized	U - 112.7 (97.4)	38.1	D	37.3	D	59.0 36.7	D	116.8 32.2	C	78.7 36.0	D
47	Stockdale Highway	Real Road	Signalized	C - 108.0	57.2	E	32.7	С	261.1	F		F		F
	SR 99 SB Ramps	Stockdale Highway	Signalized	C - 108.0	5.1	A	1.9	A	201.1	8"	114.1 42.7	D	93.2	
49	Stockdale Highway / Brundage Lane	Oak Street / Wible Road	Signalized	C - 108.0	18.5	В	51.2	D	44.0	D		_ D	10.5	В
	SR 58 EB/WB Ramps	Real Road	Signalized	U - 159.4 (98.5)	16.5	<u> </u>	25.7	C	37.0	D	48.6 24.4	C	<b>38.8</b> 27.3	C C
51	SR 99 NB Ramps	Wible Road	Signalized	U - 107.8 (80.8)	28.4	С	23.7	U	15.1	В	42.0	D	<del></del>	C
	Brundage Lane	H Street	Signalized	C - 88.0	49.6	D	41.0	D	18.7	В	34.2	C	32.2 35.3	D
53	SR 58 WB Ramps	H Street	Signalized	C - 88.0	43.0		88.3	F	5.7	A	68.8	E	56.3	E
	SR 58 EB Ramps	H Street	Signalized	C - 88.0	57.7	Е	00.3	1	54.9	D	1.7	A	27.2	C
	Brundage Lane	Chester Avenue	Signalized	C - 88.0	57.5	E	41.2	D	17.7	В	20.0	C	30.7	C
	SR 58 WB Ramps	Chester Avenue	Signalized	C - 88.0	07.0		36.3	D	6.2	A	26.9	C	23.9	C
	SR 58 EB Ramps	Chester Avenue	Signalized	C - 88.0	43.2	D	30.3		26.1	C	12.8	В	22.2	C
	Brundage Lane	Union Avenue	Signalized	U - 112.2 (94.0)	39.9	D	35.6	D	32.2	С	46.4	D	39.6	D
	SR 58 WB Ramps	Union Avenue / Brundage Lane	Signalized	U - 103.3 (55.3)	13.1	В	13.1	В	17.1	В	30.9	c	15.1	В
	SR 58 EB Ramps	Union Avenue	Signalized	U - 59.1 (49.8)	16.8	В	10.1	D	8.5	A	10.4	В	10.9	В
	Ming Avenue	New Stine Road	Signalized	C - 108.0	114.5	F	65.5	Е	60.6	E	65.4	E	79.6	E
	Ming Avenue	Real Road	Signalized	C - 108.0	26.8	C	74.7	E	43.4	D	121.1	F	60.8	E
	SR 99 SB Ramps	Ming Avenue	Signalized <sup>4</sup>	C - 108.0	3.2	A	7.3	A	15.2	В	133.6	<u>'</u>	29.3	C
	Ming Avenue	Wible Road	Signalized	C - 108.0	107.5	F	28.5	C	48.8	D	47.6	<u>_</u>	68.1	E
	SR 99 NB Ramps		Signalized	C - 108.0	21.4	c	35.8	D	44.5	D	149.9	<u>U</u>	40.4	D
	Ming Avenue	Ming Avenue Castro Lane	*	C - 108.0	11.5	В	17.3	В	44.5	D	93.2	F	24.7	С
			Signalized	C - 108.0						C		C		
	Ming Avenue	H Street	Signalized	<del>+                                    </del>	43.6	D	53.6	D	23.4		23.3	****	35.5	0
	Ming Avenue	Chester Avenue	Signalized	U - 113.2 (68.1)	26.7	C	25.5	C	22.2	C	22.2	<u>C</u>	24.0	C
	White Lane	Wible Road	Signalized	C - 108.0	107.4	F	92.6	F	56.7	E	48.1	<u>D</u>	83.3	F
	SR 99 SB Ramps	White Lane	Signalized	U - 90.0 (90.0)	117.7	F	30.8	C	45.5		131.9	F	109.5	F
	SR 99 NB Ramps	White Lane	Signalized	U - 55.1 (51.1)	7.1	A	4.1	A	15.5	В	40.0		6.9	A
72	White Lane	Hughes Lane	Signalized	C - 108.0	30.3	С	35.2	D	57.7	E	43.2	D	38.3	D

Notes: 1 "U" denotes an actuated-uncoordinated signal. "C" denotes an actuated-coordinated signal. For both uncoordinated and coordinated traffic signals, the value provided indicates the cycle length as given in the signal timing sheets. For uncoordinated signals, the number in parenthesis is the average cycle length as calculated by Synchro.

<sup>4</sup> This signal was installed after the counts were collected.

Bold font and shading indicates unacceptable intersection operations based on the LOS C standard. LOS F conditions are highlighted in bold and red font.

Source: Fehr & Peers, 2010

<sup>&</sup>lt;sup>2</sup> For signalized and all-way stop-controlled intersections, the overall average intersection delay is reported in seconds per vehicle. For side-street stop control, the average control delay for the movement with the greatest delay is reported in seconds

<sup>&</sup>lt;sup>3</sup> Level of Service (LOS) based on *Highway Capacity Manual* (Transportation Research Board, 2000) methodology and Synchro 6.0 analysis software.

## Table 2 - Existing PM Conditions (Updated 12.3.10) Intersection Level of Service Analysis

1	Foot Word Chroat	Name of the control o	_	Signal Cycle	ЕВ Ар			proach		proach	SB Ap	proach		ection
	East-West Street	North-South Street	Control	Length (sec) <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	SR 99 SB Ramps	Airport Drive / State Road	Signalized	U - 133.8 (118.9)	52.5	D	53.9	D	28.0	С	43.1	D	42.5	D
3	SR 99 NB Ramps	Airport Drive / Buck Owens Boulevard	Signalized	U - 85.3 (77.4)			31.3	С	14.6	В			21.9	С
3 4	Rio Mirada Drive	Buck Owens Boulevard	Signalized	U - 92.1 (59.7)	13.0	В	15.4	В	20.2	С	23.5	C	17.8	В
	SR 99 NB Ramps	Buck Owens Boulevard / Sillect Avenue	Signalized	U - 152.7 (107.5)	46.3	D	46.2	D	30.9	С	36.2	D	37.5	D
5	Rosedale Highway	Allen Road	Signalized	U - 137.4 (133.0)	56.9	E	114.6	F	73.3	Е	48.8	D	76.9	E
6	Rosedale Highway	Calloway Drive	Signalized	C - 140.0	46.8	D	44.9	D	197.2	F	110.7	F	91.0	F
7	Rosedale Highway	Coffee Road	Signalized	C - 140.0	64.0	E	74.4	E	61.8	E	57.1	E	65.7	E
8	Rosedale Highway	Mohawk Street	Unsignalized	••	0.0	Α	18.2	С	53.2	F			53.2	F
9	Rosedale Highway	Camino del Rio Court	Signalized	C - 140.0	29.6	С	25.9	С	171.5	F	81.3	F	37.0	D
10	Rosedale Highway	SR 99 SB Ramps	Signalized	C - 140.0	3.0	Α	5.0	Α			389.0	F	44.5	D
11	Rosedale Highway	SR 99 NB Ramps	Signalized	C - 140.0	62.8	E	108.3	F	150.3	F	207.8	F	125.6	F
12	24th Street	Oak Street	Signalized	C - 159.4	81.3	F	127.0	F	84.7	F	88.2	F	100.3	F
19	Brimhall Road	Allen Road	Signalized	U - 115.0 (52.3)	17.5	В	17.0	В	17.9	В	25.0	С	19.9	В
22	Stockdale Highway	Allen Road	Signalized	U - 137.0 (81.1)	24.2	С	26.6	С	33.0	С	28.8	С	27.0	С
23	Brimhall Road	Calloway Drive	Signalized	U - 135.0 (76.6)	25.3	С	26.9	С	25.3	С	24.1	С	25.4	С
26	Stockdale Highway	Calloway Drive / Old River Road	Signalized	C - 108.0	45.9	D	35.0	D	41.3	D	32.8	С	38.5	D
27	Brimhall Road	Coffee Road	Signalized	U - 112.7 (78.1)	30.5	С	31.5	С	114.8	F	40.6	D	72.7	E
29	Truxtun Avenue	Coffee Road	Signalized	C - 108.0			107.5	F	57.4	Е	69.2	E	81.2	F
30	Stockdale Highway	Coffee Road	Signalized	C - 108.0	64.6	E	196.3	F	80.5	F	45.2	D	90.2	F
35	Truxtun Avenue	Mohawk Street	Signalized	C - 108.0	28.3	С	39.2	D	63.4	E			41.5	D
36	California Avenue	Mohawk Street	Signalized	C - 108.0	40.5	D	70.7	E	24.4	С	32.3	С	34.3	С
	Stockdale Highway	California Avenue	Signalized	C - 108.0	84.2	F	100.2	F	42.7	D	87.1	F	81.9	F
38	Truxtun Avenue	Oak Street	Signalized	C - 108.0	81.9	F	62.5	E	32.7	С	107.2	F	74.4	E
39	California Avenue	Chester Lane	Signalized	C - 108.0	24.1	С	17.3	В	54.7	D	59.2	Е	27.8	С
40	SR 99 SB Ramps	California Avenue / Real Road	Signalized	C - 108.0	47.8	D	41.7	D	92.4	F	55.4	E	49.9	D
41	SR 99 NB Ramps	California Avenue	Signalized	C - 108.0	3.6	Α	13.9	В	91.5	F	218.3	F	25.1	С
42	California Avenue	Oak Street	Signalized	C - 108.0	77.0	E	37.6	D	59.0	E	116.8	F	78.7	E
46	California Avenue	Union Avenue	Signalized	U - 112.7 (97.4)	38.1	D	37.3	D	36.7	D	32.2	С	36.0	D
47	Stockdale Highway	Real Road	Signalized	C - 108.0	57.2	E	32.7	С	261.1	F	114.1	F	93.2	F
48	SR 99 SB Ramps	Stockdale Highway	Signalized	C - 108.0	5.1	Α	1.9	Α			42.7	D	10.5	В
	Stockdale Highway / Brundage Lane	Oak Street / Wible Road	Signalized	C - 108.0	_18.5	В	51.2	D	44.0	D	48.6	D	38.8	D-
	SR 58 EB/WB Ramps	Real Road	Signalized	U - 159.4 (98.5)			25.7	С	37.0	D	24.4	С	27.3	С
	SR 99 NB Ramps	Wible Road	Signalized	U - 107.8 (80.8)	28.4	С			15.1	В	42.0	D	32.2	С
	Brundage Lane	H Street	Signalized	C - 88.0	49.6	D	41.0	D	18.7	В	34.2	С	35.3	D
	SR 58 WB Ramps	H Street	Signalized	C - 88.0			88.3	F	5.7	Α	68.8	E	56.3	E
	SR 58 EB Ramps	H Street	Signalized	C - 88.0	57.7	Е			54.9	D	1.7	Α	27.2	С
	Brundage Lane	Chester Avenue	Signalized	C - 88.0	57.5	E	41.2	D	17.7	В	20.0	С	30.7	С
****	SR 58 WB Ramps	Chester Avenue	Signalized	C - 88.0			36.3	D	6.2	Α	26.9	С	23.9	С
	SR 58 EB Ramps	Chester Avenue	Signalized	C - 88.0	43.2	D			26.1	С	12.8	В	22.2	С
_	Brundage Lane	Union Avenue	Signalized	U - 112.2 (94.0)	39.9	D	35.6	D	32.2	С	46.4	D	39.6	D.
	SR 58 WB Ramps	Union Avenue / Brundage Lane	Signalized	U - 103.3 (55.3)	13.1	В	13.1	В	17.1	В	30.9	С	15.1	В
	SR 58 EB Ramps	Union Avenue	Signalized	U - 59.1 (49.8)	16.8	В	0==		8.5	A	10.4	В	10.9	В
	Ming Avenue	New Stine Road	Signalized	C - 108.0	114.5	F	65.5	<u>E</u>	60.6	E	65.4	E	79.6	E
	Ming Avenue	Real Road	Signalized	C - 108.0	26.8	С	74.7	E	43.4	D	121.1	F	60.8	E
	SR 99 SB Ramps	Ming Avenue	Signalized <sup>4</sup>	C - 108.0	3.2	<u> </u>	7.3	A	15.2	В	133.6	F	29.3	С
	Ming Avenue	Wible Road	Signalized	C - 108.0	107.5	F	28.5	C	48.8	D	47.6	D	68.1	E
	SR 99 NB Ramps	Ming Avenue	Signalized	C - 108.0	21.4	С	35.8	D	44.5	D	149.9	F	40.4	D
	Ming Avenue	Castro Lane	Signalized	C - 108.0	11.5	В	17.3	В	49.5	D	93.2	F	24.7	С
	Ming Avenue	H Street	Signalized	C - 88.0	43.6	D	53.6	D	23.4	C	23.3	С	35.5	D
	Ming Avenue	Chester Avenue	Signalized	U - 113.2 (68.1)	26.7	С	25.5	С	22.2	С	22.2	С	24.0	С
	White Lane	Wible Road	Signalized	C - 108.0	107.4	F	92.6	F	56.7	E	48.1	D	88.3	F
	SR 99 SB Ramps	White Lane	Signalized	U - 90.0 (90.0)	117.7	F	30.8	С	<u> </u>		131.9	F	109.5	F
	SR 99 NB Ramps	White Lane	Signalized	U - 55.1 (51.1)	7.1	Α	4.1	Α	15.5	В			6.9	Α
72	White Lane	Hughes Lane	Signalized	C - 108.0	30.3	С	35.2	D	57.7	E	43.2	D	38.3	D

Notes: 1 "U" denotes an actuated-uncoordinated signal. "C" denotes an actuated-coordinated signal. For both uncoordinated and coordinated traffic signals, the value provided indicates the cycle length as given in the signal timing sheets. For uncoordinated signals, the number in parenthesis is the average cycle length as calculated by Synchro.

<sup>4</sup> This signal was installed after the counts were collected.

Bold font and shading indicates unacceptable intersection operations based on the LOS C standard. LOS F conditions are highlighted in bold and red font.

Source: Fehr & Peers, 2010

<sup>&</sup>lt;sup>2</sup> For signalized and all-way stop-controlled intersections, the overall average intersection delay is reported in seconds per vehicle. For side-street stop control, the average control delay for the movement with the greatest delay is reported in seconds

<sup>&</sup>lt;sup>3</sup> Level of Service (LOS) based on *Highway Capacity Manual* (Transportation Research Board, 2000) methodology and Synchro 6.0 analysis software.

# **ATTACHMENT 1 – RESPONSES TO COMMENTS**

		1	
			:

# ENVIRONMENTAL PROCESS COMMENT/RESOLUTION FORM



REPORT:	Existing Conditions Intersection A	nalysis	PROJECT: Centennial Co	orridor			
SUBMITTAL: ☐ Screencheck ☐ Preliminary ☒ Draft ☐ Final ☐ Other:			CONSULTANT'S TRAFFIC MANAGER: Fred Choa, Fehr & Peers				
REVIEW TYPE:	☐ City ☐ County ☐ Caltrans	☐ HNTB ☑ Other: Parsons	PHONE: (916)773-1900	EMAIL: f.choa@fehrandpeers.com			
SUBMITTAL DA	TE:	DUE DATE:	SCHEDULED JRT MEETING	DATE:			
REVIEWER: Ra	avi Puttagunta, Parsons		DISCIPLINE: Traffic Engin	neering			

No.	Page / Ref.	Reviewer's Comment	InitialDisp.	Consultants Response	Final Disp.	LS or NDC
1	All	The Synchro output printout sheets are not showing correct <u>signal cycle lengths</u> , it is very hard to assuming what signal time used for analysis. If consultants can add a column that shows existing field cycle lengths in the intersection analysis summary table.	С	The intersection analysis summary table will be modified to include a column that shows the signal cycle lengths that are on the signal timings sheets, whether the operations are coordinated or uncoordinated, and resulting field operating cycle lengths. For coordinated signals, both cycle lengths will be the same. For actuated signals, the cycle lengths will be different.		
2	#1	Please verify/check signal phasing for EB / WB left turn for #1 – State Road / Airport Drive.	С	The phasing for the EB and WB approaches operate separately based on field observations and signal timing sheets. The turn-type for the EB and WB phases will be set to split phasing to match these operations.		
За	#12	#12 Rosedale / Oak Street – name should be 24 <sup>th</sup> Street / Oak Street.	С	The Synchro files and corresponding results summary tables and spreadsheets will be changed to show intersection #12 as 24 <sup>th</sup> Street / Oak Street		
3b	#12	#12 Rosedale / Oak Street – are these results consistent with 24 <sup>th</sup> Street Project existing conditions?	N	Yes, the LOS results are consistent with results provided by RBF for the 24 <sup>th</sup> Street Improvement Project – Existing Conditions Analysis		

CONSULTANTS INITIAL DISPOSITION CODES: C = Will Comply D = Discuss N = No Change A = Agency Action Required TRIP FINAL DISPOSITION CODES: D = Done or Approved N/C = No Change Required LS = Revise in Later Submittal NDC = Revise Immediately

No.	Page / Ref.	Reviewer's Comment	InitialDisp.	Consultants Response	Final Disp.	LS or NDC
4	#38	#38 Truxtun Avenue / Oak Street – are these results consistent with 24 <sup>th</sup> Street Project existing conditions?	N	Yes, the level of service results are consistent with the 24 <sup>th</sup> Street Project existing conditions.		
5	#40	Intersection #40 – California Ave. / SR-99 SB Ramps – WBR is not a free conditions (When eastbound left's access to loop, WB rights has to yield, it should be overlap condition).	С	Based on the geometry of the intersection (see attached page), the WBR would operate with <b>yield control</b> based on the downstream merge of the Westbound right-turn and Eastbound left-turn traffic. The Synchro files will be updated to show this change and all analysis results tables and spreadsheets will be updated based on the change in operations results.		100 A 100 A
6	#41	Please check intersection #41 – California Ave. / SR-99 NB Ramps – WBR lane geometry. Field conditions shows does not match with coding	N	The geometry and corresponding volumes used in the analysis correctly reflect the operating conditions of the five-legged intersection.		
7	Multiple	Following intersections lane geometry not consistent with AM and PM peak hours:  a. #50 – SR-58 Ramps & Real Road  b. #53 – SR-58 WB on-Ramp & H Street  c. #54 – SR-58 EB off-Ramp & H Street  d. #55 – Brundage Lane & Chester Avenue  e. #58 – Brundage Lane & Union Avenue  f. #63 – Ming Avenue & SR-99 SB Ramps  g. #64 – Ming Avenue & Wible Road  h. #65 – Ming Avenue & SR-99 NB Ramps  i. #68 – Ming Avenue & Chester Avenue  j. #69 – White Lane & Wible Road	C	The geometries in the Synchro files for all study intersections, including those shown to the left (a. through j.), will be modified to ensure consistency between the AM and PM Synchro files. The comment relates to u-turns that were only counted in the AM or PM peak hour and not the other.		

FINAL DISPOSITION CONCURRENCE: Signature indicates acknowledgement of concurrence to final dispositions ONLY and does not signify final approval of report.

REVIEWER SIGN & DATE:	CONSULTANT'S ENVIRO. MANAGER SIGN & DATE:

CONSULTANTS INITIAL DISPOSITION CODES: C = Will Comply D = Discuss N = No Change A = Agency Action Required TRIP FINAL DISPOSITION CODES: D = Done or Approved N/C = No Change Required LS =Revise in Later Submittal NDC = Revise Immediately

# **ATTACHMENT 2 – HCM CALCULATIONS**

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# <u>ATTACHMENT 1 – RESPONSES TO COMMENTS</u>

# ENVIRONMENTAL PROCESS COMMENT/RESOLUTION FORM



REPORT:	<b>Existing Conditions Intersection A</b>	nalysis	PROJECT: Centennial Co	
	☐ City ☐ County ☐ Caltrans			MANAGER: Fred Choa, Fehr & Peers
SUBMITTAL DAT		DUE DATE:	SCHEDULED JRT MEETING	EMAIL: f.choa@fehrandpeers.com
			OCHEDOLED JAT MEETING	DATE:
REVIEWER: Rav	/i Puttagunta, Parsons		DISCIPLINE: Traffic Engin	eering
			L	-

No.	Page / Ref.	Reviewer's Comment	InitialDisp.	Consultants Response	Final Disp.	LS or NDC
1	Ali	The Synchro output printout sheets are not showing correct <u>signal cycle lengths</u> , it is very hard to assuming what signal time used for analysis. If consultants can add a column that shows existing field cycle lengths in the intersection analysis summary table.	С	The intersection analysis summary table will be modified to include a column that shows the signal cycle lengths that are on the signal timings sheets, whether the operations are coordinated or uncoordinated, and resulting field operating cycle lengthsFor coordinated signals, both cycle lengths will be the same. For actuated signals, the cycle lengths will be different.		NDC
2	#1	Please verify/check signal phasing for EB / WB left turn for #1 – State Road / Airport Drive.	С	The phasing for the EB and WB approaches operate separately based on field observations and signal timing sheets. The turn-type for the EB and WB phases will be set to split phasing to match these operations.		
3a	#12	#12 Rosedale / Oak Street – name should be 24 <sup>th</sup> Street / Oak Street.	С	The Synchro files and corresponding results summary tables and spreadsheets will be changed to show intersection #12 as 24 <sup>th</sup> Street / Oak Street		
3b	#12	#12 Rosedale / Oak Street – are these results consistent with 24 <sup>th</sup> Street Project existing conditions?	N	Yes, the LOS results are consistent with results provided by RBF for the 24 <sup>th</sup> Street Improvement Project – Existing Conditions Analysis		

CONSULTANTS INITIAL DISPOSITION CODES: C = Will Comply D = Discuss N = No Change A = Agency Action Required

TRIP FINAL DISPOSITION CODES: D = Done or Approved N/C = No Change Required

LS = Revise in Later Submittal NDC = Revise Immediately

No.	Page / Ref.	Reviewer's Comment	InitialDisp.	Consultants Response	Final Disp.	
4	#38	#38 Truxtun Avenue / Oak Street – are these results consistent with 24 <sup>th</sup> Street Project existing conditions?	N	Yes, the level of service results are consistent with the 24 <sup>th</sup> Street Project existing conditions.	<i>5</i> 13p.	NOC
5	#40	Intersection #40 – California Ave. / SR-99 SB Ramps – WBR is not a free conditions (When eastbound left's access to loop, WB rights has to yield, it should be overlap condition).	С	Based on the geometry of the intersection (see attached page), the WBR would operate with <b>yield control</b> based on the downstream merge of the Westbound right-turn and Eastbound left-turn traffic. The Synchro files will be updated to show this change and all analysis results tables and spreadsheets will be updated based on the change in operations results.		
6	#41	Please check intersection #41 - California Ave. / SR-99 NB Ramps - WBR lane geometry. Field conditions shows does not match with coding	N	The geometry and corresponding volumes used in the analysis correctly reflect the operating conditions of the five-legged intersection.		
7	Multiple	Following intersections lane geometry not consistent with AM and PM peak hours:  a. #50 – SR-58 Ramps & Real Road  b. #53 – SR-58 WB on-Ramp & H Street  c. #54 – SR-58 EB off-Ramp & H Street  d. #55 – Brundage Lane & Chester Avenue  e. #58 – Brundage Lane & Union Avenue  f. #63 – Ming Avenue & SR-99 SB Ramps  g. #64 – Ming Avenue & Wible Road  h. #65 – Ming Avenue & SR-99 NB Ramps  i. #68 – Ming Avenue & Chester Avenue  j. #69 – White Lane & Wible Road	С	The geometries in the Synchro files for all study intersections, including those shown to the left (a. through j.), will be modified to ensure consistency between the AM and PM Synchro files. The comment relates to u-turns that were only counted in the AM or PM peak hour and not the other.		

FINAL DISPOSITION CONCURRENCE: Signature indicates acknowledgement of concurrence to final dispositions ONLY and does not signify final approval of report.

CONSULTANT'S ENVIRO.
MANAGER SIGN & DATE:

CONSULTANTS INITIAL DISPOSITION CODES: C = Will Comply D = Discuss N = No Change A = Agency Action Required

TRIP FINAL DISPOSITION CODES: D = Done or Approved N/C = No Change Required

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# ATTACHMENT 2 - HCM CALCULATIONS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्स	7	ليراير	4	7	ሻ	444	7	-	<b>^^</b>	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor		1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00		0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00		1.00	
Flpb, ped/bikes Frt		1.00	1.00 0.85	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Flt Protected		0.95	1.00	1.00 0.95	0.94	0.85	1.00	1.00	0.85		1.00	
Satd. Flow (prot)		1719	1538	3335	1.00 1612	1.00 1440	0.95 1719	1.00	1.00		1.00	
Fit Permitted		0.95	1.00	0.95	1.00	1.00	0.95	4940 1.00	1538 1.00		4919	
Satd. Flow (perm)		1719	1538	3335	1612	1440	1719	4940	1538		1.00	
Volume (vph)	39	0	155	485	57	112	121	745	18		4919	
Peak-hour factor, PHF	0.80	0.80	0.80	0.76	0.76	0.76	0.86	0.86	0.86	0 0.95	1124	30
Adj. Flow (vph)	49	0	194	638	75	147	141	866	21	0.95	0.95 1183	0.95
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	11	0	0	32
Lane Group Flow (vph)	0	49	155	638	121	101	141	866	10	0	1215	0
Confl. Peds. (#/hr)						2		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		•	1213	2
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	Split		Perm	Split		Perm	Prot		Perm			
Protected Phases	7	7	100	8	8	4. Francisco	5	2	3 P. C.		6	
Permitted Phases			7			8			2			
Actuated Green, G (s)		19.8	19.8	26.8	26.8	26.8	13.3	50.1	50.1		33.1	
Effective Green, g (s)		20.7	20.7	27.7	27.7	27.7	13.0	51.4	51.4		34.4	
Actuated g/C Ratio		0.19	0.19	0.25	0.25	0.25	0.12	0.46	0.46		0.31	
Clearance Time (s)		4.9	4.9	4.9	4.9	4.9	3.7	5.3	5.3		5.3	
Vehicle Extension (s)	· · · · · · · · · · · · · · · · · · ·	8.0	8.0	4,7	4.7	4.7	2.0	3.9	3.9		4.1	· #
Lane Grp Cap (vph)		318	285	826	399	357	200	2271	707		1514	
v/s Ratio Prot v/s Ratio Perm		0.03	-0.40	c0.19	80.0		c0.08	0.18	AL 545		c0.25	
v/s Ratio		0.15	c0.10 0.54	0.77	0.00	0.07	0.70		0.01			
Uniform Delay, d1		38.2	41.3	0.77 39.1	0.30 34.2	0.28	0.70	0.38	0.01		0.80	
Progression Factor		1.00	1.00	1.00	1.00	34.0 1.00	47.6	19.8	16.4		35.6	
Incremental Delay, d2		1.0	6.8	5.1	0.8	0.8	1.00 8.9	1.00	1.00 0.0		1.00	
Delay (s)		39.2	48.1	44.3	35.0	34.8	56.4	19.9	16.4		3.4	
Level of Service		D	D	O	00.0 D	04.0 C	50.4 E	19.9 B	10.4 B		39.0	
Approach Delay (s)	. Pari	46.3		y e J	41.9			24.9			ں 39.0	
Approach LOS		D		Her Kultur York d	D			C			39.0 D	
Intersection Summary												
HCM Average Control Dela	ay		35.9	H	CM Lev	el of Se	rvice		D			
HCM Volume to Capacity r			0.72						,			
Actuated Cycle Length (s)			111.8	Sı	ım of lo	st time	(s)		16.0			
Intersection Capacity Utiliza	ation	5	9.7%			l of Ser			В			
Analysis Period (min)			15		<del></del>	=,=;	, =· <del>=</del>					
c Critical Lane Group												

	•	•	<b>†</b>	-	/	<b>↓</b>					
Movement	WBL	WBR	NBT	NBR	SBL	SBT	h pri li			1.1	
Lane Configurations		7575	4111	7							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900					
Total Lost time (s)		4.0	4.0	4.0							
Lane Util. Factor	i e e	0.88	0.81	0.81							
Frt		0.85	1.00	0.85							
Flt Protected		1.00	1.00	1.00							
Satd. Flow (prot)		2707	5700	1211							
Flt Permitted		1.00	1.00	1.00	ia (Mil) Table (Mil)					.a. 97.5	
Satd. Flow (perm)		2707	5700	1211							
Volume (vph)	0	319	1430	78	0	0					
Peak-hour factor, PHF	0.82	0.82	0.84	0.84	0.85	0.85					
Adj. Flow (vph)	0	389	1702	93	0	0			1,770		
RTOR Reduction (vph)	0	11	0	0	0	0					
Lane Group Flow (vph)	0	378	1702	93	0	0					
Heavy Vehicles (%)	5%	5%	8%	8%	2%	2%					
Turn Type	C	ustom		Free	tara da						
Protected Phases			2	225							
Permitted Phases		8		Free							
Actuated Green, G (s)	. 4	13.7	37.4	61.4							
Effective Green, g (s)		14.6	38.8	61.4			la, e de				
Actuated g/C Ratio		0.24	0.63	1.00			. San Area				
Clearance Time (s)		4.9	5.4	Guille.		1 1 2 2		*			* *
Vehicle Extension (s)		3.2	5.7								
Lane Grp Cap (vph)	1	644	3602	1211							
v/s Ratio Prot		101 <b>= 2 4</b>	c0.30							ut u seut set	er vije
v/s Ratio Perm		c0.14	the first of the second	0.08							
v/c Ratio		0.59	0.47	0.08	am ballos f				4 4	aterias a	
Uniform Delay, d1	test dile	20.7	5.9	0.0							
Progression Factor		1.00	1.00	1.00							and the second
Incremental Delay, d2		1.4	0.3	0.1						1. March 18	
Delay (s)		22.1	6.2	0.1							
Level of Service	20.4	C	A = 0	Α		0.0					
Approach Delay (s)	22.1 C		5.9 A			0.0 A		231			Talles to the
Approach LOS			A			^				Day 18	
Intersection Summary											
HCM Average Control D			8.8		HCM Le	vel of S	ervice		Α		
HCM Volume to Capacit			0.50	5 1 5 57	_*		era a er				
Actuated Cycle Length (			61.4		Sum of I				8.0		
Intersection Capacity Uti	ilization		39.0%	ı	ICU Lev	el of Se	rvice		Α		#4. W
Analysis Period (min)			15								
c Critical Lane Group											

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		€\$			€		*	<b>^</b> ^	7	ሻ	<b>∱</b> }	
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.90			0.93		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1636			1661		1719	3438	1502	1719	3438	
Fit Permitted		1.00			0.88		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1629			1477		1719	3438	1502	1719	3438	
Volume (vph)	11	185	469	20	46	70	30	245	25	65	32	0
Peak-hour factor, PHF	0.79	0.79	0.79	0.81	0.81	0.81	0.93	0.93	0.93	0.62	0.62	0.62
Adj. Flow (vph)	14	234	594	25	57	86	32	263	27	105	52	0.02
RTOR Reduction (vph)	0	99	0	0	0	0	0	0	20	0	0	0
Lane Group Flow (vph)	0	743	0	Ō	168	0	32	263	7	105	52	0
Confl. Peds. (#/hr)	2		<del></del>			2	U.	200	2	105	32	U
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	Perm	in in the second		Perm			Prot	0 70	Perm	Prot	J/6	376
Protected Phases		4		. 0	8		5	2	remi			
Permitted Phases	4			8	J		3		2	1	6	
Actuated Green, G (s)	•	24.4			24.4		2.3	12.9	2 12.9	6.0	. 40.0	
Effective Green, g (s)		24.6			24.6		2.3	13.8	13.8	6.3	16.9	
Actuated g/C Ratio		0.43			0.43		0.04	0.24		6.3	17.8	
Clearance Time (s)		4.2			4.2		4.0	4.9	0.24	0.11	0.31	
Vehicle Extension (s)		1.5			1.5		1.0		4.9	4.0	4.9	
Lane Grp Cap (vph)	(,0)	707			641		70	2.0	2.0	1.5	2.0	
v/s Ratio Prot		. 101			041			837	366	191	1079	
v/s Ratio Perm	an in an a	c0.46			0.11		0.02	c0.08		c0.06	c0.02	
v/c Ratio		1.05						المحا	0.00			
Uniform Delay, d1		16.1		Pin	0.26		0.46	0.31	0.02	0.55	0.05	
Progression Factor		1.00	1		10.3		26.6	17.6	16.3	23.9	13.5	
Incremental Delay, d2		48.0			1.00		1.00	1.00	1.00	1.00	1.00	
Delay (s)		64.0			0.1	4	1.7	0.1	0.0	1.7	0.0	
Level of Service		04.0 E			10.3		28.3	17.7	16.3	25.6	13.6	
Approach Delay (s)					В		C	В	В	C	В	
		64.0		e e e	10.3			18.6	ast j	Arrive	21.6	
Approach LOS		E			В			В			С	
Intersection Summary												
HCM Average Control De			43.7	Н	CM Lev	el of Se	rvice		D			
<b>HCM Volume to Capacity</b>	0.80		. K. 181 <sub>0.3</sub> 6				ьц.Ū.					
Actuated Cycle Length (s	56.7						16.0	***				
Intersection Capacity Utili	zation	i - 15 (	64.1%			of Sen		44.	C	w <sub>t</sub>		
Analysis Period (min)			15									
c Critical Lane Group							a 155			1		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	SBL	SBT
Lane Configurations	٦	<b>1</b>		*	44		7 <sup>f</sup>	ሻሻ	<b>↑</b> ↑		ሻ	<b>个</b> 个
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		0.95	0.91	\$1.00 m	0.95	0.97	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.95		1.00	0.95		0.85	1.00	0.94		1.00	0.96
Flt Protected	0.95	1.00		0.95	0.97		1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1687	1697		1633	1485	-	1441	3099	3200		1719	3243
Fit Permitted	0.95	1.00		0.95	0.97		1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1687	1697		1633	1485		1441	3099	3200		1719	3243
	495	224	103	130	0	25	22	190	320	236	46	286
Volume (vph)			0.84	0.88	0.88	0.88	0.88	0.96	0.96	0.96	0.93	0.93
Peak-hour factor, PHF	0.84	0.84						198		246		
Adj. Flow (vph)	589	267	123	148	0	28	25		333		49	308
RTOR Reduction (vph)	0	0	0	0	0	0	22	0	0	. 0	0	0
Lane Group Flow (vph)	589	390	0	97	79	0	3	198	579	0	49	406
Confl. Peds. (#/hr)		70/		2	F0/	4.00/	2	400/	F6/	2	F0/	- 50/
Heavy Vehicles (%)	7%	7%	6%	5%	5%	10%	5%_	13%	5%	5%	5%	5%
Turn Type	Split			Split			Perm	Prot			Prot	
Protected Phases	4	4		3	3			5	2		1	6
Permitted Phases							3					
Actuated Green, G (s)	36.7	36.7		11.5	11.5		11.5	10.6	30.4		4.8	23.1
Effective Green, g (s)	36.9	36.9		11.2	11.2		11.2	11.8	31.0		4.5	23.7
Actuated g/C Ratio	0.37	0.37		0.11	0.11		0.11	0.12	0.31		0.05	0.24
Clearance Time (s)	4.2	4.2		3.7	3.7		3.7	5.2	4.6		3.7	4.6
Vehicle Extension (s)	4.1	4.1	and the second	4.1	4.1		4.1	2.0	5.5		2.0	5.5
Lane Grp Cap (vph)	625	629		184	167		162	367	996		78	772
v/s Ratio Prot	c0.35	0.23	eres de la companya d	c0.06	0.05	43	gardi.	c0.06	c0.18		0.03	0.13
v/s Ratio Perm				27444 14 1			0.00					
v/c Ratio	0.94	0.62	garage.	0.53	0.47	100	0.02	0.54	0.58		0.63	0.53
Uniform Delay, d1	30.3	25.6		41.7	41.4		39.3	41.3	28.8		46.7	33.1
Progression Factor	1.00	1.00	13.7	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	23.0	2.2		3.7	3.0		0.1	0.8	1.5		10.8	1.4
Delay (s)	53.3	27.8		45.4	44.5		39.4	42.1	30.3		57.6	34.5
Level of Service	D	C		D	D		D	D	C		E	C
Approach Delay (s)	: 1	43.1		2 44 July 1	44.3				33.3			37.0
Approach LOS	i sti utalia	D		i istoriji	מ			a Tarasan	C		era a piripe	D
• •		U		w.200.84.200.600				ha annann o an Soire on ann	•	han announce and decrement for both or	transferatori incresionia in 1866	
Intersection Summary					10141	1 (0						
HCM Average Control D			38.9	ŀ	HCM Le	vel of S	ervice		D			
HCM Volume to Capacit			0.71					ta and			in tale.	
Actuated Cycle Length (			99.6			ost time			12.0			
Intersection Capacity Uti	lization		70.4%		CU Lev	el of Se	rvice		С			
Analysis Period (min)			15					August 1				
c Critical Lane Group												

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Movement SBR2	E.
Land Configurations	#
Ideal Flow (vphpl) 1900	
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
FIpb, ped/bikes Frt	
Fit Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph) 91	-
Peak-hour factor, PHF 0.93	
Adj. Flow (vph) 98	
RTOR Reduction (vph) 0	
Lane Group Flow (vph) 0	
Confl. Peds. (#/hr) 2	
Heavy Vehicles (%) 13%	
Turn Type	_
Protected Phases Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	-
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach LOS	
Approach LOS	
Intersection Summary	4

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ተተ	7*	ሻ	<b>十</b> 个	ř	75	<b>^</b>	7*	75	<b>↑</b> ↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3343	1516	1656	3112	1407	1736	1810	1487	1626	3369	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3343	1516	1656	3112	1407	1736	1810	1487	1626	3369	
Volume (vph)	112	629	44	200	425	122	70	315	228	132	373	46
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	0.93	0.93	0.93
Adj. Flow (vph)	119	669	47	217	462	133	79	354	256	142	401	49
RTOR Reduction (vph)	0	0	20	0	0	40	0	0	77	0	0	0
Lane Group Flow (vph)	119	669	27	217	462	93	79	354	179	142	450	0
Confl. Peds. (#/hr)		2	2		دخست "	2			2	ל מיגיים		2
Heavy Vehicles (%)	2%	8%	5%	9%	16%	12%	4%	5%	7%	11%	5%	7%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot	4. 5. 4	
Protected Phases	5	2		1	6		3	8	_	7	4	
Permitted Phases			2			6			8		ل عدد	
Actuated Green, G (s)	9.7	31.6	31.6	17.6	39.5	39.5	7.7	24.2	24.2	11.5	28.0	
Effective Green, g (s)	9.9	34.6	34.6	17.8	42.5	42.5	7.9	27.2	27.2	11.7	31.0	
Actuated g/C Ratio	0.09	0.32	0.32	0.17	0.40	0.40	0.07	0.25	0.25	0.11	0.29	
Clearance Time (s)	4.2	7.0	7.0	4.2	7.0	7.0	4.2	7.0	7.0	4.2	7.0	
Vehicle Extension (s)	2.0	6.0	6.0	2.0	5.3	5.3	2.0	3,1	3.1	2.0	2.4	
Lane Grp Cap (vph)	163	1078	489	275	1233	557	128	459	377	177	973	
v/s Ratio Prot	0.07	c0.20		c0.13	0.15		0.05	c0.20		c0.09	c0.13	
v/s Ratio Perm			0.02			0.07	0.00		0.12		0.40	
v/c Ratio_	0.73	0.62	0.05	0.79	0.37	0.17	0.62	0.77	0.48	0.80	0.46	
Uniform Delay, d1	47.4	30.8	25.1	42.9	23.0	20.9	48.2	37.2	34.0	46.7	31.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	13.4	1.9	0.1	12.9	0.4	0.3	6.1	7.9	1.0	21.3	0.2	
Delay (s)	60.8	32.7	25.2	55.9	23.4	21.3	54.3	45.0	35.0	68.0	31.5	
Level of Service	Ε	С	C	E	C	С	D	D	С	E	C 40.0	
Approach Delay (s)		36.3			31.7			42.4			40.3	
Approach LOS		D			С			D			D	
Intersection Summary												
HCM Average Control D	elay		37.3	F	ICM Le	vel of Se	ervice		D			
HCM Volume to Capacit			0.74			25.0						
Actuated Cycle Length (			107.3	5	Sum of I	ost time	(s)		20.0			
Intersection Capacity Uti			66.1%			el of Sei			С	1 + 1 1 - 1		
Analysis Period (min)		"	15									
c Critical Lane Group		in in his says Tall the says										

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ä	<b>^</b>	7	*	<b>↑</b> ↑	7	ካ	<b>ተ</b> ጮ		শৃদ্	<b>^</b>	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1,00	1.00
Satd. Flow (prot)	1770	3252	1559	1641	3059	1446	1626	3198		3273	3438	1447
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3252	1559	1641	3059	1446	1626	3198		3273	3438	1447
Volume (vph)	152	1106	210	209	627	115	119	341	231	363	691	101
Peak-hour factor, PHF	0.86	0.86	0.86	0.90	0.90	0.90	0.88	0.88	0.88	0.89	0.89	0.89
Adj. Flow (vph)	177	1286	244	232	697	128	135	388	262	408	776	113
RTOR Reduction (vph)	0	0	38	0	0	38	0	0	0	0	Ó	34
Lane Group Flow (vph)	177	1286	206	232	697	90	135	650	0	408	776	79
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	11%	2%	10%	18%	10%	11%	5%	6%	7%	5%	10%
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	20.0	48.1	48.1	22.4	51.3	51.3	15.3	29.9		19.4	34.0	34.0
Effective Green, g (s)	19.4	51.0	51.0	22.6	54.2	54.2	14.7	31.6		18.8	35.7	35.7
Actuated g/C Ratio	0.14	0.36	0.36	0.16	0.39	0.39	0.10	0.23		0.13	0.26	0.26
Clearance Time (s)	3.4	6.9	6.9	4.2	6.9	6.9	3.4	5.7		3.4	5.7	5.7
Vehicle Extension (s)	2.0	5.9	5.9	2.0	6.5	6.5	2.0	4.3		2.0	4.3	4.3
Lane Grp Cap (vph)	245	1185	568	265	1184	560	171	722		440	877	369
v/s Ratio Prot	0.10	c0.40		c0.14	0.23		80.0	0.20		c0.12	c0.23	
v/s Ratio Perm			0.13			0.06	,				e established by a con-	0.05
v/c Ratio	0.72	1.09	0.36	0.88	0.59	0.16	0.79	0.90		0.93	0.88	0.22
Uniform Delay, d1	57.7	44.5	32.6	57.3	34.1	28.0	61.1	52.7		59.9	50.2	41.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.6	52.5	1.8	25.2	2.2	0.6	19.6	14.8	,	25.2	11.0	0.5
Delay (s)	66.3	97.0	34.4	82.6	36.2	28.7	80.8	67.4		85.1	61.2	41.6
Level of Service	E	F	С	F	D	C	F	Ε		F	E	D
Approach Delay (s)		84.9			45.5			69.7		a da di	67.0	
Approach LOS		F			D			Е			E	
Intersection Summary												
HCM Average Control D	elay		69.0	Н	CM Lev	el of Se	rvice		E			
<b>HCM Volume to Capacity</b>	y ratio	200	0.96	<b>建门电路</b>		11.74			dyda 🗐 t	1.0954		
Actuated Cycle Length (s	3)		140.0	S	um of lo	ost time	(s)		12.0			
Intersection Capacity Uti		4.	83.0%			el of Ser			E			
Analysis Period (min)			15					\$ s				
c Critical Lane Group		tean of the second		44.34								

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ካካ	<b>∱</b> ∱		ሻሻ	ተተ	7	ሻሻ	ተተተ	7	ሻሻ	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util Factor	0.97	0.95		0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	ta tyrin i v	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3213	3282		3335	3167	1515	3155	4940	1515	3335	4940	1394
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3213	3282		3335	3167	1515	3155	4940	1515	3335	4940	1394
Volume (vph)	210	1361	160	132	801	136	174	679	443	345	748	50
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.87	0.87	0.87	0.90	0.90	0.90
Adj. Flow (vph)	226	1463	172	139	843	143	200	780	509	383	831	56
RTOR Reduction (vph)	0	0	0	0	0.0	43	0	0	153	0	0	39
Lane Group Flow (vph)	226	1635	Ö	139	843	100	200	780	356	383	831	17
Confl. Peds. (#/hr)		1000	2		0,10	2			2		00.	2
Heavy Vehicles (%)	9%	8%	9%	5%	14%	5%	11%	5%	5%	5%	5%	14%
Turn Type	Prot	<u> </u>	** : <del></del>	Prot		Perm	Prot		Perm	Prot	<del>-</del>	Perm
Protected Phases	5	2		1.00	6		3	8	. 01111	7	4	
Permitted Phases	<del>Y</del> i					6	<u>-</u>		8		•	4
Actuated Green, G (s)	8.0	57.7		10.1	59.8	59.8	12.9	29.0	29.0	18.6	34.7	34.7
Effective Green, g (s)	9.2	60.7		11.3	62.8	62.8	14.1	32.2	32.2	19.8	37.9	37.9
Actuated g/C Ratio	0.07	0.43		0.08	0.45	0.45	0.10	0.23	0.23	0.14	0.27	0.27
Clearance Time (s)	5.2	7.0		5.2	7.0	7.0	5.2	7.2	7.2	5.2	7.2	7.2
Vehicle Extension (s)	2.0	4.6		2.0	4.9	4.9	2.0	6.0	6.0	2.0	6.0	6.0
Lane Grp Cap (vph)	211	1423	<u> </u>	269	1421	680	318	1136	348	472	1337	377
v/s Ratio Prot	0.07	c0.50	en de vil	0.04	c0.27		0.06	0.16		c0.11	0.17	, 0,,
v/s Ratio Perm	0.07	00.00		0.0	00.27	0.07	0.00	0.10	c0.23	00.11	0.17	0.01
v/c Ratio	1.07	1.15		0.52	0.59	0.15	0.63	0.69	1.02	0.81	0.62	0.04
Uniform Delay, d1	65.4	39.6		61.7	29.0	22.8	60.4	49.3	53.9	58.3	44.8	37.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	82.1	75.7		0.7	1.8	0.5	2.8	2.6	54.1	9.7	1.5	0.1
Delay (s)	147.5	115.3		62.4	30.8	23.2	63.2	51.9	108.0	68.0	46.3	37.8
Level of Service	147.5 F	F		υ <u>ν</u>	C	C	E	D	F	E	D	D
Approach Delay (s)		119.2	1 1 12		33.8		e, rai <del>l</del> i	72.6	er e eige	1.4,	52 <i>.</i> 5	
Approach LOS	sadi eni	F	7 - 15.0		00.0			, <u>z.</u> E			D	
	Minds Sources and Anti-		10.430.000 at a 1.000 a				, entre control to the sale, a	_		Salis Masila ber Masila da salar		
Intersection Summary												
HCM Average Control Delay 75.7 HCM Level of Service E												
HCM Volume to Capacit		ing the late	1.02									
Actuated Cycle Length (			140.0			ost time			16.0			
Intersection Capacity Ut	ilization	Para Japan	90.2%	je za l	CU Lev	el of Sei	vice		E			
Analysis Period (min)			15							se i		
c Critical Lane Group				. Description			436 141					

	<b></b>	هر	-	*	•	4	•	4	†	<i>&gt;</i>	<b>\</b>	<b>↓</b>
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		ħ	<b>ሳ</b> ኁ		*	<b>↑</b> ↑			4			4
Sign Control			Free			Free	43.34		Stop			Stop
Grade			0%			0%			0%			0%
Volume (veh/h)	16	0	2375	22	70	1530	7	2	0	30	0	Ö
Peak Hour Factor	0.91	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.25	0.25
Hourly flow rate (vph)	0	0	2610	24	78	1700	8	2	0	35	0	0
Pedestrians									2			2
Lane Width (ft)									12.0			12.0
Walking Speed (ft/s)									4.0			4.0
Percent Blockage									0			0
Right turn flare (veh)												
Median type								. 1	Raised		. 151	Raised
Median storage veh)									1			1
Upstream signal (ft)	0.00									4.		
pX, platoon unblocked	0.00	4740			0010							
vC, conflicting volume	0	1710			2612			3630	4489	1319	3201	4473
vC1, stage 1 conf vol vC2, stage 2 conf vol		•						2624	2624		1861	1861
vCu, unblocked vol	0	1710			0040			1006	1865		1340	2612
tC, single (s)	0.0	4.1			2612			3630	4489	1319	3201	4473
tC, 2 stage (s)	0.0	4.1			4.2			7.5	6.5	7.1	7.5	6.5
tF (s)	0.0	2.2			2.3			6.5	5.5	A 4	6.5	5.5
p0 queue free %	0.0	100			48			3.5	4.0	3.4	3.5	4.0
cM capacity (veh/h)	. 0	367			149			88	100	75	100	100
The state of the s			entro de carro de la composición de la composición de la composición de la composición de la composición de la	Processing and a constraint		***		19	24	137	19	. 1
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB3	NB 1	SB 1				
Volume Total	0	1740	894	78	1133	574	37	0				
Volume Left	0	0	0	78	0	0	2	0				
Volume Right	1700	0	24	0	0	8	35	0	San San			
cSH	1700 0.00	1700´ 1.02	1700 0.53	149	1700	1700	98	1700				
Volume to Capacity  Queue Length 95th (ft)	0.00	0		0.52	0.67	0.34	0.38	0.00				
Control Delay (s)	0.0	0.0	0 0.0	64 52.9	0	0	38	0				
Lane LOS	0.0	0.0	0.0		0.0	0.0	62.4	0.0				
Approach Delay (s)	0.0			F 2.3			F	A				
Approach LOS	0.0			2.3		-	62.4 F	0.0 A			t ex	
							-	^	Fisher islam - turn man are are	PSC - 200 P - 20 M - MA		
Intersection Summary												
Average Delay	  4		1.4	10.2					<u></u>			
Intersection Capacity Util	ization		76.4%	10	CU Leve	of Ser	vice		D			
Analysis Period (min)			15									



overnent
ant Configurations
ign Control
rade
olume (veh/h)
eak Hour Factor 0.25
ourly flow rate (vph) 0 edestrians
edestrians ane Width (ft):
/alking Speed (ft/s)
ercent Blockage
ight turn flare (veh)
ledian type
ledian storage veh)
pstream signal (ft)
X, platoon unblocked
C, conflicting volume 856
C1, stage 1 conf vol C2, stage 2 conf vol
Cu, unblocked vol 856
C, single (s) 6.9
C, 2 stage (s)
# <b>(s)</b> 등 통통한 공연 : 10 - <b>3.3</b> - 10 - 22 - 10 - 10 - 10 - 10 - 10 - 10
0 queue free % 100
M capacity (veh/h) 301
irection, Lane #

	۶	<b>→</b>	*	*	+	•	4	<b>†</b>	<i>&gt;</i>	1	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	<b>\</b>	ተተኩ		44	<b>^</b>	7*	Ť	Î÷		'n	स	7*
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s) Lane Util. Factor	4.0 1.00	4.0 0.91		4.0 0.97	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Frpb, ped/bikes	1.00	1.00		1.00	*0.84 1.00	1.00 0.98	1.00	1.00		0.95	0.95	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00 1.00	1.00	0.98
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	1.00	1.00 0.85
Fit Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1719	4934	***	3367	4560	1514	1626	1517		1603	1622	1473
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	1719	4934		3367	4560	1514	1626	1517		1603	1622	1473
Volume (vph)	38	2135	16	191	1767	88	19	4	163	76	4	37
Peak-hour factor, PHF	0.85	0.85	0.85	0.83	0.83	0.83	0.90	0.90	0.90	0.82	0.82	0.82
Adj. Flow (vph)	45	2512	19	230	2129	106	21	4	181	93	5	45
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	0	0	0	42
Lane Group Flow (vph)	45	2531	0	230	2129	78	21	185	0	47	51	3
Confl. Peds. (#/hr)	EO/	ΕÖ/	2	457	<b>~</b> 0.	2						. 2
Heavy Vehicles (%)	5%	5%	6%	4%	5%	5%	11%	2%	7%	7%	2%	8%
Turn Type Protected Phases	Prot			Prot		Perm	Split			Split		Perm
Permitted Phases	5	2			6		3	3		4	4	
Actuated Green, G (s)	8.0	85.1		12.6	89.7	6 89.7	14.0	14.0		9.4	. 0.4	4
Effective Green, g (s)	8.2	87.4		12.8	92.0	92.0	14.2	14.2		9.4	9.4 9.6	9.4 9.6
Actuated g/C Ratio	0.06	0.62		0.09	0.66	0.66	0.10	0.10		0.07	0.07	0.07
Clearance Time (s)	4.2	6.3		4.2	6.3	6.3	4.2	4.2		4.2	4.2	4.2
Vehicle Extension (s)	2.0	6.4		2.0	5.5	5.5	2,0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	101	3080		308	2997	995	165	154	***************************************	110	111	101
v/s Ratio Prot	0.03	c0.51		0.07	c0.47		0.01	c0.12		0.03	c0.03	
v/s Ratio Perm						0.05						0.00
v/c Ratio	0.45	0.82		0.75	0.71	0.08	0.13	1.20		0.43	0.46	0.03
Uniform Delay, d1	63.7	20.3		62.0	15.4	8.7	57.3	62.9		62.6	62.7	60.9
Progression Factor	1.00	1.00		0.85	0.91	0.57	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1 64.8	2.6		6.1	1.1	0.1	0.1	136.8		1.0	1.1	0.0
Delay (s) Level of Service	04.6 F	22.9 C		58.9	15.1 B	5.0	57.4	199.7	400	63.5	63.8	60.9
Approach Delay (s)		23.6			18.8	Α.	E	185.2		E	E	E
Approach LOS		20.0 C		u Tair	В			F	a. 1 <sup>4</sup> / <sub>2</sub>		62.8 E	
Intersection Summary						l l						
HCM Average Control De	elay		28.6	Н	ICM Lev	el of Se	rvice		С			
HCM Volume to Capacity		and the same	0.83	4.5			可用式			a je seje	No.	
Actuated Cycle Length (s			140.0			ost time	` '		16.0			
Intersection Capacity Util	zation	7	78.3%	10	CU Leve	of Sen	/ice		D			
Analysis Period (min)			15									
c Critical Lane Group			Mary Land					ali Sara				

	۶		*	•	4-	4	•	<b>†</b>	<b>/</b>	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		444	۴		ተተተ	7				*	4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0	4.0	
Lane Util. Factor		0.86	0.86		0.91	1.00				0.95	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.98				1.00	1.00	
Flpb, ped/bikes		1.00	1.00	PENC	1.00	1.00				1.00	1.00	
Frt		0.97	0.85		1.00	0.85				1.00	0.85	
Flt Protected		1.00	1.00		1.00	1.00				0.95	1.00	
Satd. Flow (prot)		4544	1270		4940	1437				1573	1434	
FIt Permitted		1.00	1.00		1.00	1.00				0.95	1.00	
Satd. Flow (perm)		4544	1270		4940	1437				1573	1434	
Volume (vph)	0	1457	917	0	1757	698	0	0	0	296	0	289
Peak-hour factor, PHF	0.85	0.85	0.85	0.84	0.84	0.84	0.92	0.92	0.92	0.84	0.84	0.84
Adj. Flow (vph)	0	1714	1079	0	2092	831	0	0	0	352	0	344
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2070	701	0	2092	831	0	0	0	352	344	0
Confl. Peds. (#/hr)			2			2						
Heavy Vehicles (%)	2%	4%	8%	2%	5%	10%	2%	2%	2%	9%	2%	7%
Turn Type			Free			Free				Split		
Protected Phases		2			6				7 2 4 565	4	4	
Permitted Phases			Free			Free						
Actuated Green, G (s)		111.5	140.0		111.5	140.0				20.0	20.0	
Effective Green, g (s)		111.9	140.0		111.9	140.0				20.1	20.1	
Actuated g/C Ratio		0.80	1.00		0.80	1.00				0.14	0.14	
Clearance Time (s)		4.4			4.4					4.1	4.1	
Vehicle Extension (s)	أنيفي للتراج	4.5		All was	4.5				2000 July 1	4.1	4.1	
Lane Grp Cap (vph)		3632	1270		3948	1437				226	206	
v/s Ratio Prot	er E	0.46			0.42		10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			0.22	c0.24	
v/s Ratio Perm			0.55			c0.58						
v/c Ratio		0.57	0.55		0.53	0.58				1.56	1.67	
Uniform Delay, d1		5.2	0.0		4.9	0.0				60.0	60.0	
Progression Factor		0.72	1.00		0.52	1.00				1.00	1.00	
Incremental Delay, d2		0.4	0.9		0.0	0.2				271.4	321.9	
Delay (s)		4.1	0.9		2.6	0.2				331.4	381.8	
Level of Service		Α	Α		Α	Α				F	F	
Approach Delay (s)		3.3			1.9			0.0		ing an arma Salah	356.3	
Approach LOS		Α			Α			Α			F	
Intersection Summary												
HCM Average Control D	elay		41.0	ŀ	ICM Le	vel of S	ervice		D			
<b>HCM Volume to Capacit</b>			0.74									
Actuated Cycle Length (			140.0	5	Sum of I	ost time	(s)		4.0			
Intersection Capacity Uti			58.7%		CU Lev			and high	В	er jageral		
Analysis Period (min)		17 A	15			enge ett til						
c Critical Lane Group				Mary.		Mad No.						: [3

	<u> </u>	<b>→</b>	•	•	+	1	•	<b>†</b>	<i>*</i>	-	1	7
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7575	ተተተ			<b>^</b>	7	ሻሻ		7	ሻሻ	JUI	<u> </u>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	-,	4.0	4.0	, 1000	4.0
Lane Util. Factor	*0.90	*0.85			0.91	1.00	0.97		1.00	0.97		1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.99	1.00		1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00	1.00		1.00
Frt	1.00	1.00			1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	English C	1.00	0.95		1.00
Satd. Flow (prot)	2954	4704			4988	1513	3242		1583	3303		1417
Flt Permitted	0.95	1.00			1.00	1.00	0.95		1.00	0.95		1.00
	2954	4704			4988	1513	3242		1583	3303		1417
Volume (vph)	323	1430	0	0	1353	397	825	0	905	179	0	277
Peak-hour factor, PHF	0.90	0.90	0.90	0.78	0.78	0.78	0.80	0.80	0.80	0.89	0.89	0.89
Adj. Flow (vph)	359	1589	0	0	1735	509	1031	0	1131	201	0	311
RTOR Reduction (vph)	. 0	Ó	0	0	0	9	0	0	0	0	0	3
Lane Group Flow (vph)	359	1589	0	0	1735	500	1031	0	1131	201	0	308
Confl. Peds. (#/hr)						2						
Heavy Vehicles (%)	10%	3%	2%	2%	4%	6%	8%	2%	2%	6%	2%	14%
Turn Type	Prot					pm+ov	Prot		Free	Prot	C	ustom
Protected Phases	5	2			6	4	8		200	4		57
Permitted Phases						6			Free			
Actuated Green, G (s)	19.0	69.3			45.1	105.0	39.0		140.0	59.9		35.7
Effective Green, g (s)	20.2	70.2			46.0	107.8	40.9		140.0	61.8		37.1
Actuated g/C Ratio	0.14	0.50			0.33	0.77	0.29		1.00	0.44		0.27
Clearance Time (s)	5.2	4.9			4.9	5.9	5.9			5.9		
Vehicle Extension (s)	2.0	4.5			4.5	4.5	3.3			4.5		
Lane Grp Cap (vph)	426	2359			1639	1208	947		1583	1458	<u> </u>	376
v/s Ratio Prot	0.12	0.34			c0.35	0.18	c0.32			0.06		0.22
v/s Ratio Perm						0.15	*******		c0.71	FIFTS	** ·-	·
	0.84	0.67			1.06	0.41	1.09		0.71	0.14		0.82
Uniform Delay, d1	58.4	26.3			47.0	5.4	49.5		0.0	23.3		48.3
	0.92	0.86			1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	9.3	1.0			39.6	0.4	56.4		2.8	0.1		12.4
	63.1	23.6			86.6	5.8	106.0		2.8	23.3		60.7
Level of Service	Ε	C			F	Α	F	. *	A	С		E
Approach Delay (s)		30.9			68.3		1.043	52.0			46.0	144 <del>- T</del>
Approach LOS		С			E			D		1 4	D	
Intersection Summary												
HCM Average Control Del	ay		50.9	Н	CM Lev	el of Se	ervice	<u> </u>	D			
HCM Volume to Capacity	ratio		0.95									
Actuated Cycle Length (s)		77		4.4		1.0						
			140.0	S	um of k	ost time	(s)		8.0			
Intersection Capacity Utiliz	ation		140.0 76.8%			ost time of Ser			8.0 D	Karji Zi		
	ation					ost time of Ser				Alagoria		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	个个	7	ابرابر	<b>ት</b> ጮ		7	र्स	7	., .	€₽	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (prot)	1770	3505	1558	3433	3497		1681	1693	1572		1752	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	- S
Satd. Flow (perm)	1770	3505	1558	3433	3497		1681	1693	1572		1752	
Volume (vph)	33	1920	561	603	1414	19	319	16	484	21	17	17
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	2182	638	685	1607	22	347	17	526	23	18	18
RTOR Reduction (vph)	0	0	106	0	0	0	0	0	105	0	0	0
Lane Group Flow (vph)	38	2182	532	685	1629	0	177	187	421	0	59	0
Confl. Peds. (#/hr)	7		2			2			2	2		• • • •
Heavy Vehicles (%)	2%	3%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	5	2	. 0	1 101	6		8	8	1	7	7	
Permitted Phases			2		. •			•	8		, ta —	
Actuated Green, G (s)	17.6	80.8	80.8	25.0	90.2		24.5	24.5	49.5		7.7	
Effective Green, g (s)	17.8	82.7	82.7	26.2	91.1		26.4	26.4	52.6		8.1	
Actuated g/C Ratio	0.11	0.52	0.52	0.16	0.57		0.17	0.17	0.33		0.05	
Clearance Time (s)	4.2	5.9	5.9	5.2	4.9		5.9	5.9	5.2	,,	4.4	
Vehicle Extension (s)	2.0	5.7	5.7	2.0	5.7		5.6	5.6	2.0		1.0	100
Lane Grp Cap (vph)	198	1818	808	564	1999	<u> </u>	278	280	558	s made en en en	89	· · · · · · · · · · · · · · · · · · ·
v/s Ratio Prot	0.02	c0.62	000	c0.20	0.47		0.11	0.11			c0.03	
v/s Ratio Perm	0.02	CU.02	0.34	CU.20	U.+/		0.11	0.11	0.14		CU.U3	
v/s Ratio Ferm	0.19	1.20	0.66	1.21	0.81		0.64	0.67	0.75		0.66	
	64.3	38.4	28.0	66.6	27.4		62.0	62.4	47.6		74.3	
Uniform Delay, d1		1.00	1,00	1.00	1.00		1.00	1.00	1.00		1.00	
Progression Factor	1.00				3.8		7.3	8.6	5.1			
Incremental Delay, d2	0.2	95.7	4.2 32.2	112.1 178.7	31.2			71.0			13.4	
Delay (s)	64.4 F	134.0 F	32.2 C	178.7 F	31.2 C		69.3 F	71.0 F	52.7 D		87.8 F	
Level of Service	·	•	U	<b>_</b>	. •			_	ט		•	2 3 1 1
Approach Delay (s)		110.4			74.9	in the first	100	59.9	1.0		87.8	1
Approach LOS		F			E			Ε			۲	
Intersection Summary												
HCM Average Control Do			89.4	۲	ICM Le	vel of Se	ervice		F			
HCM Volume to Capacity			1.10			a kutu					11, 2	
Actuated Cycle Length (s	•		159.4			ost time	* . *		16.0			
Intersection Capacity Util	lization	1,3	98.3%	10	CU Lev	el of Ser	vice		F			
Analysis Period (min)			15									
c Critical Lane Group												** **

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	<b>†</b> \$		۲	<b>†</b>	7	7	<b>^</b> ^	7	۱۳		7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes Frt	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1,00	1.00	1.00	1.00
Fit Protected	0.95	0.97 1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Satd. Flow (prot)	1770	3415		0.95 1770	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Flt Permitted	0.95	1.00		0.95	1863	1562	1770	3539	1562	1770	1863	1546
Satd. Flow (perm)	1770	3415		1770	1863	1.00 1562	0.95	1.00	1.00	0.95	1.00	1.00
Volume (vph)	22	333	86	35			1770	3539	1562	1770	1863	1546
Peak-hour factor, PHF	0.79	0.79	0.79	0.72	122 0.72	93 0.72	22	339	75	146	381	16
Adj. Flow (vph)	28	422	109	49	169	129	0.90 24	0.90 377	0.90	0.83	0.83	0.83
RTOR Reduction (vph)	0	0	0	0	103	89	0	0	83 59	176	459	19
Lane Group Flow (vph)	28	531	0	49	169	40	24	377		0	0	6
Confl. Peds. (#/hr)		, 00,1	2	45	103	2	24	3//	24	176	459	13
Turn Type	Prot	<del> </del>	<del>-</del>	Prot		Perm	Prot		Perm	Drot		2
Protected Phases	5	2		1 101	6	I CHIII	3 LIOI	8	renn	Prot	1	Perm
Permitted Phases					,	6	3	0	8	7	4	j
Actuated Green, G (s)	1.8	16.4		3.4	18.0	18.0	1.8	17.2	17.2	8.3	23.7	4 23.7
Effective Green, g (s)	1.8	18.4		3.4	20.0	20.0	1.8	19.2	19.2	8.3	25.7 25.7	25.7 25.7
Actuated g/C Ratio	0.03	0.28		0.05	0.31	0.31	0.03	0.29	0.29	0.13	0.39	0.39
Clearance Time (s)	4.0	6.0		4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lane Grp Cap (vph)	49	962		92	571	478	49	1041	459	225	733	608
v/s Ratio Prot	0.02	c0.16		c0.03	0.09		0.01	0.11	17-7.	c0.10	c0.25	
v/s Ratio Perm				s files d		0.03			0.02			0.01
v/c Ratio	0.57	0.55		0.53	0.30	0.08	0.49	0.36	0.05	0.78	0.63	0.02
Uniform Delay, d1	31.4	19.9	ed oc	30.2	17.3	16.1	31.3	18.2	16.5	27.6	15.9	12.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.4		2.9	0.1	0.0	2.8	0.1	0.0	15.0	1.2	0.0
Delay (s)	41.0	20.3		33.1	17.4	16.1	34.1	18.3	16.5	42.6	17.1	12.1
Level of Service	D	С		С	В	В	С	В	В	D	В	В
Approach Delay (s)		21.4			19.1			18.8			23.8	
Approach LOS		C			В			В			С	e di ta
Intersection Summary												
HCM Average Control De			21.2	H	CM Lev	el of Se	rvice		С			
HCM Volume to Capacity			0.60									-6.3
Actuated Cycle Length (s)			65.3			st time			12.0			
Intersection Capacity Utili:	zation	5	6.2%	IC	U Leve	l of Serv	/ice		В			
Analysis Period (min)	11.6		15								4	
c Critical Lane Group												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<del>ተ</del> ቀጐ		75	ተተተ	7	ሻሻ	<b>†</b>	7	14/4	<b>个</b> 个	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5045		1770	5085	1546	3433	1863	1561	3433	3539	1561
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5045		1770	5085	1546	3433	1863	1561	3433	3539	1561
Volume (vph)	115	882	44	112	503	238	22	77	163	602	115	94
Peak-hour factor, PHF	0.68	0.68	0.68	0.80	0.80	0.80	0.89	0.89	0.89	0.82	0.82	0.82
Adj. Flow (vph)	169	1297	65	140	629	298	25	87	183	734	140	115
RTOR Reduction (vph)	0	0	0	0	0	59	0	0	36	0	0	70
Lane Group Flow (vph)	169	1362	0	140	629	239	25	87	147	734	140	45
Confl. Peds. (#/hr)			2	• • • •		2		Ŧ.	2			2
Turn Type	Prot	. *		Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6	, <u>, , , , , , , , , , , , , , , , , , </u>	3	8		7	4	
Permitted Phases						6		* * *	8			4
Actuated Green, G (s)	13.0	33.3		11.7	32.0	32.0	2.6	16.8	16.8	27.0	41.2	41.2
Effective Green, g (s)	13.5	35.3		12.2	34.0	34.0	3.1	18.8	18.8	27.5	43.2	43.2
Actuated g/C Ratio	0.12	0.32		0.11	0.31	0.31	0.03	0.17	0.17	0.25	0.39	0.39
Clearance Time (s)	4.5	6.0		4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.5	2.0	2.0
Lane Grp Cap (vph)	218	1622		197	1575	479	97	319	267	860	1392	614
v/s Ratio Prot	c0.10	c0.27		0.08	0.12		0.01	0.05	- T.T. 1	c0.21	0.04	
v/s Ratio Perm		00.2.				0.15			c0.09	00.21		0.03
v/c Ratio	0.78	0.84		0.71	0.40	0.50	0.26	0.27	0.55	0.85	0.10	0.07
Uniform Delay, d1	46.7	34.6	4.14	47.1	29.9	30.9	52.2	39.6	41.6	39.2	21.0	20.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.5	3.8		9.6	0.1	0.3	0.5	0.2	1.4	7.9	0.0	0.0
Delay (s)	61.1	38.5		56.7	29.9	31.2	52.7	39.7	43.0	47.2	21.0	20.8
Level of Service	E	D D		50.7 E	20.0 C	C	D.7	D	D	77.2 D	Ž C	20.0 C
The first of the f		41.0			33.8		<i>-</i>	42.9		U	40.4	·
Approach Delay (s) Approach LOS		41.0 D			33.0 C			42.3 D			40.4 D	1 a .ai .ai
Intersection Summary												
HCM Average Control D			39.0	,	ICM Le	vel of S	ervice		D			
HCM Volume to Capaci			0.76									
Actuated Cycle Length		4-11	109.8			ost time			12.0		- TA	
Intersection Capacity Ut	tilization		58.5%	Į.	CU Lev	el of Se	rvice		В			

- 15

Analysis Period (min)

c Critical Lane Group

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>↑</b> ↑	7 7	75.75	<b>^</b>	7	ሻሻ	ተተተ	7	ሻሻ	<u> </u>	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt_	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	2747	3433	3539	1561	3433	5085	1561	3433	5085	1562
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	2747	3433	3539	1561	3433	5085	1561	3433	5085	1562
Volume (vph)	196	797	236	151	300	143	108	541	134	362	1070	126
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.87	0.87	0.87	0.79	0.79	0.79
Adj. Flow (vph)	213	866	257	172	341	162	124	622	154	458	1354	159
RTOR Reduction (vph)	0	0	52	0	0	32	Ô	0	31	0	0	32
Lane Group Flow (vph)	213	866	205	172	341	130	124	622	123	458	1354	127
Confl. Peds. (#/hr)			2			2			2		. :	2
Turn Type	Prot		Perm	Prot		Perm	Prot	r to s	Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	. 0
Permitted Phases			2			6			8			4
Actuated Green, G (s)	9.6	27.5	27.5	9.0	26.9	26.9	6.1	23.7	23.7	15.7	33.3	33.3
Effective Green, g (s)	9.6	29.5	29.5	9.0	28.9	28.9	6.1	25.7	25.7	15.7	35.3	35.3
Actuated g/C Ratio	0.10	0.31	0.31	0.09	0.30	0.30	0.06	0.27	0.27	0.16	0.37	0.37
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	. 1.0	2.0	2.0	1.5	2.0	2.0	1.5	2.0	2.0	1.0	2.0	2.0
Lane Grp Cap (vph)	344	1089	845	322	1066	470	218	1363	418	562	1872	575
v/s Ratio Prot	c0.06	c0.24		0.05	0.10		0.04	0.12	. N. T	c0.13	c0.27	0.,0
v/s Ratio Perm			0.07			0.08	100		0.08			0.08
v/c Ratio	0.62	0.80	0.24	0.53	0.32	0.28	0.57	0.46	0.29	0.81	0.72	0.22
Uniform Delay, d1	41.4	30.4	24.8	41.5	25.9	25.5	43.6	29.3	27.9	38.7	26.1	20.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	3.8	0.1	0.9	0.1	0.1	2.0	0.1	0.1	8.4	1.2	0.1
Delay (s)	43.7	34.3	24.9	42.3	26.0	25.6	45.6	29.4	28.0	47.1	27.3	20.9
Level of Service	D	С	С	D	С	C	D	C	С	D	C	C
Approach Delay (s)		34.0			30.1			31.4		r Pa	31.4	
Approach LOS		C			C		ABAH I	C			С	
Intersection Summary												
HCM Average Control De			31.9	H	CM Lev	el of Se	vice		С			
HCM Volume to Capacity			0.71	-								
Actuated Cycle Length (s)			95.9			st time (			8.0			
Intersection Capacity Utili	zation		6.4%	IC	U Level	of Serv	rice		С			
Analysis Period (min) c Critical Lane Group			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	74.74	ተተተ	7	ሻሻ	ተተተ	74	ሻሻ	ተተተ	7	ሻሻ	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5036	1561	3303	4631	1531	3242	5036	1545	3433	5036	1460
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5036	1561	3303	4631	1531	3242	5036	1545	3433	5036	1460
Volume (vph)	114	981	265	188	316	94	83	396	368	295	798	77
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.88	0.88	0.88	0.80	0.80	0.80
Adj. Flow (vph)	134	1154	312	221	372	111	94	450	418	369	998	96
RTOR Reduction (vph)	0	0	62	0	Ó	65	0	0	139	0	0	48
Lane Group Flow (vph)	134	1154	250	221	372	46	94	450	279	369	998	48
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	3%	2%	6%	12%	4%	8%	3%	3%	2%	3%	9%
Turn Type	Prot	***************************************	Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6		•	8			4
Actuated Green, G (s)	7.3	39.0	39.0	11.0	42.7	42.7	10.8	22.4	22.4	14.6	26.2	26.2
Effective Green, g (s)	7.8	41.0	41.0	11.5	44.7	44.7	11.3	24.4	24.4	15.1	28.2	28.2
Actuated g/C Ratio	0.07	0.38	0.38	0.11	0.41	0.41	0.10	0.23	0.23	0.14	0.26	0.26
Clearance Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2,0	2.0	1.0	2.0	2.0
Lane Grp Cap (vph)	248	1912	593	352	1917	634	339	1138	349	480	1315	381
v/s Ratio Prot	0.04	c0.23		c0.07	0.08	ga Degrad	0.03	0.09		c0.11	c0.20	
v/s Ratio Perm			0.16			0.03			0.18			0.03
v/c Ratio	0.54	0.60	0.42	0.63	0.19	0.07	0.28	0.40	0.80	0.77	0.76	0.13
Uniform Delay, d1	48.4	27.0	24.7	46.2	20.2	19.1	44.6	35.5	39.5	44.8	36.8	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	1.4	2.2	2.5	0.2	0.2	0.2	0.1	11.3	6.6	2.3	0.1
Delay (s)	49.7	28.4	26.9	48.7	20.4	19.3	44.7	35.6	50.7	51.3	39.0	30.5
Level of Service	D	С	С	D	С	В	D	D	D	D	D	С
Approach Delay (s)		29.9			29.1			43.1			41.6	
Approach LOS		C			С			D			D	
Intersection Summary												
HCM Average Control De	elay		36.1	F	ICM Lev	el of Se	ervice		D			
HCM Volume to Capacity			0.69									
Actuated Cycle Length (s			108.0			ost time			16.0			
Intersection Capacity Util			65.9%	I	CU Leve	el of Ser	vice		С			
Analysis Period (min)			15									
c Critical Lane Group				10 mm		ta ega						

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	14.54	A	7 7	74	<b>A</b>	7	ሻሻ	<del>↑</del> ↑↑			ă	<del></del>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.91			1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00			1.00	1.00
Flpb, ped/bikes Frt	1.00 1.00	1.00	1.00 0.85	1.00 1.00	1.00	1.00	1.00	1.00			1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00 1.00	0.85	1.00 0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433	1863	2787	1770	1712	1447	3303	4911	in et i		0.95	1.00
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			1770 0.95	5036
Satd. Flow (perm)	3433	1863	2787	1770	1712	1447	3303	4911			1770	1.00 5036
Volume (vph)	515	32	1031	32	18	10	324	876	20	7	1770	1301
Peak-hour factor, PHF	0.86	0.86	0.86	0.79	0.79	0.79	0.82	0.82	0.82	0.84	0.84	0.84
Adj. Flow (vph)	599	37	1199	41	23	13	395	1068	24	8	14	1549
RTOR Reduction (vph)	0	0	237	0	0	11	0	0	0	0	0	0
Lane Group Flow (vph)	599	37	962	41	23	2	395	1092	0	0	22	1549
Confl. Peds. (#/hr)						2			2			
Heavy Vehicles (%)	2%	2%	2%	2%	11%	10%	6%	5%	15%	2%	2%	3%
Turn Type	Prot	•	Perm	Prot		Perm	Prot			Prot	Prot	
Protected Phases	5	2		1	6		3	8		7	7	4
Permitted Phases	07.0	0 <b></b>	2			6						
Actuated Green, G (s)	27.0	35.1	35.1	3.9	12.0	12.0	12.7	33.5			2.1	22.9
Effective Green, g (s)	27.0	37.1	37.1	3.9	14.0	14.0	12.7	35.2			2.1	24.6
Actuated g/C Ratio Clearance Time (s)	0.29 4.0	0.39 6.0	0.39 6.0	0.04 4.0	0.15	0.15	0.13	0.37		* x	0.02	0.26
Vehicle Extension (s)	1.5	2.0	2.0	1.0	6.0 2.0	6.0 2.0	4.0	5.7			4.0	5.7
Lane Grp Cap (vph)	983	733	1096	73	254	215	1.0 445	1.0	<u> </u>		1.0	1.0
v/s Ratio Prot	c0.17	0.02	1030	0.02	0.01	215	c0.12	1833 0.22			39	1314
v/s Ratio Perm	90.17	0.02	c0.35	0.02	0.01	0.00	CU. 12	0.22			0.01	c0.31
v/c Ratio	0.61	0.05	0.88	0.56	0.09	0.01	0.89	0.60			0.56	1.18
Uniform Delay, d1	29.1	17.7	26.5	44.4	34.7	34.2	40.1	23.8			45.6	34.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.7	0.0	7.9	5.8	0.1	0.0	18.4	0.3			10.7	88.7
Delay (s)	29.8	17.7	34.4	50.1	34.7	34.2	58.5	24.2			56.3	123.5
Level of Service	С	В	C	D	C	С	E	С			E	F
Approach Delay (s)		32.6			42.8			33.3				111.7
Approach LOS		С			D			С				F
Intersection Summary												
HCM Average Control D			60.1	H	CM Lev	el of Se	ervice		Е			
<b>HCM Volume to Capacit</b>			0.97								$t = t_1 - \epsilon_{k_1 + k_2}$	
Actuated Cycle Length (	,		94.3	Sı	um of lo	st time	(s)		16.0			
Intersection Capacity Uti	lization		77.0%	IC	U Leve	of Ser	vice		D			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR - California (1971) and the control of the cont
Land Configurations	1000 to 1000 t
Ideal Flow (vphpl)	
Total Lost time (s)	4.0
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	1501 
Fit Permitted	
Satd. Flow (perm)	1501
Volume (vph)	[2] 175 [ - [ - [ - [ - [ - [ - [ - [ - [ - [
Peak-hour factor, PHF	0.84
Adj. Flow (vph)	
RTOR Reduction (vph)	41 - 407 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 2
Lane Group Flow (vph)	
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	6%
Turn Type	Perm
Protected Phases	
Permitted Phases	4 
Actuated Green, G (s)	22.9
Effective Green, g (s)	24.6
Actuated g/C Ratio	
Clearance Time (s)	5.7 
Vehicle Extension (s)	
Lane Grp Cap (vph)	in <mark>392.</mark> Tanananan kalendari kananan menangan dari perangan beraharan kanangan perangan beraharan beraharan beraharan be
v/s Ratio Prot	
v/s Ratio Perm	0.11 The Armen of the State of
v/c Ratio	
Uniform Delay, d1	29.0
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	C. Paramana paramanan kulong kalangan panggalangan kanangan panggalangan panggalangan kanangan panggalangan pangg
Approach Delay (s)	
Approach LOS	
Intersection Summary	

	•	*	<b>†</b>	-	<b>&gt;</b>	Ţ	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	ሻሻ	7 7	<b>个</b> 个	77	ሻሻ	ተተተ	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	*0.75	0.95	0.88	*0.80	0.91	
Frpb, ped/bikes	1.00	0.99	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	0.85	1.00	1.00	
FIt Protected	0.95	1.00	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3400	2307	3406	2744	2831	5036	
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3400	2307	3406	2744	2831	5036	
Volume (vph)	501	307	911	1680	1052	1262	
Peak-hour factor, PHF	0.79	0.79	0.90	0.90	0.92	0.92	
Adj. Flow (vph)	634	389	1012	1867	1143	1372	
RTOR Reduction (vph)	0	15	0	7	0	0	
Lane Group Flow (vph)	634	374	1012	1860	1143	1372	
Confl. Peds. (#/hr)		2		2			
Heavy Vehicles (%)	3%	4%	6%	2%	2%	3%	
Turn Type	- 1	vo+mc		pm+ov	Prot		
Protected Phases	4	1	2	4	1	6	
Permitted Phases		4		2			
Actuated Green, G (s)	20.5	55.5	36.0	56.5	35.0	75.5	
Effective Green, g (s)	22.5	58.0	38.0	60.5	35.5	77.5	
Actuated g/C Ratio	0.21	0.54	0.35	0.56	0.33	0.72	and the second of the second of the second of
Clearance Time (s)	6.0	4.5	6.0	6.0	4.5	6.0	
Vehicle Extension (s)	2.0	1.5	2.0	2.0	1.5	2.0	
Lane Grp Cap (vph)	708	1324	1198	1639	931	3614	
v/s Ratio Prot	0.19	0.09	0.30	c0.24	c0.40	0.27	
v/s Ratio Perm		0.07		0.44			
v/c Ratio	0.90	0.28	0.84	1.13	1.23	0.38	
Uniform Delay, d1	41.6	13.6	32.3	23.8	36.2	5.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	13.6	0.0	7.4	68.8	112.0	0.3	
Delay (s)	55.2	13.7	39.7	92.6	148.3	6.2	8. a. s.
Level of Service	Е	В	D	F	F	Α	
Approach Delay (s)	39.4		74.0			70.8	
Approach LOS	D		Е			E	
Intersection Summary							
HCM Average Control D	elay		67.2	Н	ICM Lev	el of Se	rvice E
<b>HCM Volume to Capacit</b>	y ratio	1. J	1.17	4444	, I		
Actuated Cycle Length (	s)		108.0	S	um of lo	st time	(s) 8.0
Intersection Capacity Uti		9	5.7%			of Serv	
Analysis Period (min)			15				e version and the control of the con
c Critical Lane Group							

30: Stockdale	Highway &	Coffee	Road

	۶	-	*	•	4	•	4	<b>†</b>	<b>/</b>	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	74	<b>^</b> ^	7	77	ተተጉ		ليراير	<u>ተ</u> ተጉ		ايراير	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91		0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	100	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.99		1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4988	1473	3367	4675		3433	4999		3400	4988	1531
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4988	1473	3367	4675		3433	4999		3400	4988	1531
Volume (vph)	729	1068	70	247	815	318	253	1555	169	432	896	435
Peak-hour factor, PHF	0.86	0.86	0.86	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	848	1242	81	294	970	379	288	1767	192	502	1042	506
RTOR Reduction (vph)	0	0	24	0	0	0	0	0	0	0	0	101
Lane Group Flow (vph)	848	1242	57	294	1349	0	288	1959	0	502	1042	405
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	4%	8%	4%	5%	8%	2%	2%	3%	3%	4%	4%
Turn Type	Prot		Perm	Prot		·	Prot			Prot		Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Actuated Green, G (s)	19.2	29.4	29.4	11.8	22.0		12.0	34.8		12.0	34.8	34.8
Effective Green, g (s)	19.2	31.4	31.4	11.8	24.0		12.0	36.8		12.0	36.8	36.8
Actuated g/C Ratio	0.18	0.29	0.29	0.11	0.22		0.11	0.34		0.11	0.34	0.34
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	2.0
Lane Grp Cap (vph)	610	1450	428	368	1039	-	381	1703		378	1700	522
v/s Ratio Prot	c0.25	0.25		0.09	c0.29		0.08	c0.39	The second second	c0.15	0.21	
v/s Ratio Perm			0.04									0.26
v/c Ratio	1.39	0.86	0.13	0.80	1.30		0.76	1.15	1 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.33	0.61	0.78
Uniform Delay, d1	44.4	36.2	28.3	46.9	42.0		46.6	35.6		48.0	29.7	31.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	185.5	6.7	0.6	10.8	141.4		7.4	74.9		164.9	1.7	10.8
Delay (s)	229.9	42.9	28.9	57.7	183.4		54.0	110.5		212.9	31,3	42.7
Level of Service	F	D	С	Ε	F		Ď	F		F	C	D
Approach Delay (s)		115.4		100	160.9			103.3			78.6	
Approach LOS		F			F			F			E	
Intersection Summary												
HCM Average Control I	Delay		112.0	ŀ	HCM Le	vel of S	ervice		F			
HCM Volume to Capac	ity ratio		1.26									
Actuated Cycle Length	(s)		108.0	5	Sum of I	ost time	(s)		16.0			
Intersection Capacity U		1	03.2%		CU Lev	el of Se	rvice		G			
Analysis Period (min)			15									
c Critical Lane Group					ing No. 1994 Tanàna ao							

	<b>→</b>	*	1	◆	4	1	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	ተተ	7	ኻኻ	<u></u>	<b>ል</b> ካ	7 7	
Ideal Flow (vphpl)	1900	1900		1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	Charles the control of the control of the con-
Frt	1.00	0.85	1.00	1.00	1.00	0.85	
FIt Protected	1.00	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3539	1561	3400	3505	3433	2740	
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3539	1561	3400	3505	3433	2740	
Volume (vph)	2034	601	201	706	318	365	
Peak-hour factor, PHF	0.89	0.89	0.77	0.77	0.80	0.80	
Adj. Flow (vph)	2285	675	261	917	398	456	
RTOR Reduction (vph)	0	139	0	Ô	0	13	
Lane Group Flow (vph)	2285	536	261	917	398	443	
Confl. Peds. (#/hr)		2				2	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Turn Type		Perm	Prot		(	custom	
Protected Phases	2		1	6.	7	1	
Permitted Phases		2				4	
Actuated Green, G (s)	70.4	70.4	8.0	82.4	15.6	23.6	
Effective Green, g (s)	72.4	72.4	8.0	84.4	15.6	23.6	
Actuated g/C Ratio	0.67	0.67	0.07	0.78	0.14	0.22	
Clearance Time (s)	6.0	6.0	4.0	6.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	1.5	2.0	2.0	1.5	
Lane Grp Cap (vph)	2372	1046	252	2739	496	700	
v/s Ratio Prot	c0.65		c0.08	0.26	c0.12	0.05	
v/s Ratio Perm		0.34		* ***		0.11	
v/c Ratio	0.96	0.51	1.04	0.33	0.80	0.63	A MOTOR CALL BY A CONTROL OF THE AND A
Uniform Delay, d1	16.6	8.9	50.0	3.5	44.7	38.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.7	1.8	66.3	0.3	8.6	1.4	
Delay (s)	28.2	10.7	116.3	3.8	53.3	39.6	
Level of Service	С	В	F	Α	D	D	
Approach Delay (s)	24.2			28.7	46.0		Table For the second of the second of the
Approach LOS	С			С	D		the second residual contraction of the second contraction of the secon
Intersection Summary							
HCM Average Control D			29.0	Н	ICM Lev	el of Se	ervice C
HCM Volume to Capacit			0.94				
Actuated Cycle Length (			108.0	S	ium of lo	ost time	(s) 12.0
Intersection Capacity Uti	lization		81.4%	IC	CU Leve	el of Sen	vice D
Analysis Period (min)			15				
c Critical Lane Group						en e San de	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBA
Lane Configurations	Ä	4	77	ሻ	4		44	<b>†††</b>	4000	Ä	444	**
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	:	4.0	4.0 0.91		4.0	4.0 0.91	4.0 1.00
Lane Util. Factor	0.95	0.95 1.00	0.88 0.99	0.95 1.00	0.95 1.00		0.97 1.00	1.00		1.00	1.00	0.99
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.99		1.00	1.00	0.85
Fit Protected	0.95	0.97	1.00	0.95	0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1691	2769	1665	1606		3433	5013		1770	4988	1560
Flt Permitted	0.95	0.97	1.00	0.95	0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1691	2769	1665	1606		3433	5013		1770	4988	1560
Volume (vph)	343	77	171	39	13	13	548	1089	96	74	720	303
Peak-hour factor, PHF	0.82	0.82	0.82	0.71	0.71	0.71	0.79	0.79	0.79	0.83	0.83	0.83
Adj. Flow (vph)	418	94	209	55	18	18	694	1378	122	89	867	365
RTOR Reduction (vph)	0	0	41	0	0	0	0	0	0	0	0	72
Lane Group Flow (vph)	254	258	168	46	45	0	694	1500	0	89	867	293
Confl. Peds. (#/hr)			2	2			.,		2		-, -	2
Heavy Vehicles (%)	2%	6%	2%	3%	2%	8%	2%	2%	2%	2%	4%	2%
Turn Type	Split		pm+ov	Split			Prot			Prot		Perm
Protected Phases	4	4	5	3	3		5	2		1	6	
Permitted Phases			4		<b></b> .			-				6
Actuated Green, G (s)	19.7	19.7	49.4	5.1	5.1	1 4	29.7	58.1		6.8	35.2	35.2
Effective Green, g (s)	21.0	21.0	50.7	5.1	5.1		29.7	59.1		6.8 0.06	36.2	36.2
Actuated g/C Ratio	0.19	0.19	0.47	0.05	0.05		0.27 4.0	0.55 5.0		4.0	0.34 5.0	0.34 5.0
Clearance Time (s)	5.3 2.0	5.3 2.0	4.0 1.0	4.0 1.5	4.0 1.5		1.0	2.0		1.0	2.0	2.0
Vehicle Extension (s)	327	329	1402	79	76		944	2743		111	1672	523
Lane Grp Cap (vph)	0.15	c0.15	0.03	0.03	c0.03		c0.20	0.30		c0.05	0.17	323
v/s Ratio Prot v/s Ratio Perm	0.13	CO. 13	0.03	0.03	CO.03		CO.20	Ų.JŲ		00.00	0,17	c0.19
v/c Ratio	0.78	0.78	0.12	0.58	0.59		0.74	0.55		0.80	0.52	0.56
Uniform Delay, d1	41.3	41.3	16.1	50.4	50.4		35.6	15.8		49.9	28.9	29.4
Progression Factor	1,00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.1	10.7	0.0	6.9	8.0		2.6	0.8		31.1	1.2	4.3
Delay (s)	51.4	52.1	16.1	57.3	58.4		38.2	16.6		81.1	30.0	33.7
Level of Service	D	D	В	E	Е		D	В		F	С	C
Approach Delay (s)		41.4			57.8			23.4			34.5	
Approach LOS		D			Е			С			C	
Intersection Summary												
HCM Average Control Do	elay		30.5	F	ICM Le	vel of Se	ervice		С			
<b>HCM Volume to Capacity</b>			0.68									
Actuated Cycle Length (s			108.0			ost time			16.0			
Intersection Capacity Uti	lization		63.8%	i i	CU Leve	el of Sei	rvice		В			
Analysis Period (min)			15									
c Critical Lane Group							and the second					

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Movement	EBL		EBR	WBL	WBT	WBR	NBL	NBT	NBA	SBL	SBT	SBR
Lane Configurations	44			74.74	ተተተ	7	ኝኝ	ተተጉ		ኻጘ	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes Frt	1.00	1.00 0.99		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Fit Protected	0.95	1.00		1.00 0.95	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Satd. Flow (prot)	3433	4951		3273	1.00 4759	1.00	0.95	1.00		0.95	1.00	1.00
Fit Permitted	0.95	1.00		0.95	1.00	1560 1.00	3400 0.95	4995		3303	4893	1474
Satd. Flow (perm)	3433	4951		3273	4759	1560	3400	1.00 4995		0.95	1.00	1.00
Volume (vph)	800	1162	125	127	1000	112				3303	4893	1474
Peak-hour factor, PHF	0.90	0.90	0.90	0.77	0.77	0.77	235 0.77	775 0.77	83	189	431	332
Adj. Flow (vph)	889	1291	139	165	1299	145	305	1006	0.77	0.87	0.87	0.87
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	108	217	495	382
Lane Group Flow (vph)	889	1430	0	165	1299	109	305	. 1114	0	0 217	0	96
Confl. Peds. (#/hr)			2		1200	2	000	. 1114	2	21/	495	286
Heavy Vehicles (%)	2%	3%	4%	7%	9%	2%	3%	2%	4%	6%	6%	2 8%
Turn Type	Prot	***************************************		Prot		Perm	Prot		770	Prot	0 /8	Perm
Protected Phases	7	4		3	8	. 0	5	2		1 101	6	renn
Permitted Phases		the second		* * T	. •	8	• • • •	, . <del>-</del> -		- 1	0.	6
Actuated Green, G (s)	27.6	45.0		8.6	26.0	26.0	10.5	26.1		9.7	25.3	25.3
Effective Green, g (s)	27.6	46.3		8.6	27.3	27.3	10.5	27.4		9.7	26.6	26.6
Actuated g/C Ratio	0.26	0.43		0.08	0.25	0.25	0.10	0.25		0.09	0.25	0.25
Clearance Time (s)	4.0	5.3		4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	0.5	2.0		0.5	2.0	2.0	0.5	2.0		0.5	2.0	2.0
Lane Grp Cap (vph)	877	2123		261	1203	394	331	1267		297	1205	363
v/s Ratio Prot	c0.26	0.29		0.05	c0.27		0.09	c0.22		0.07	0.10	000
v/s Ratio Perm						0.07						c0.19
v/c Ratio	1.01	0.67		0.63	1.08	0.28	0.92	0.88		0.73	0.41	0.79
Uniform Delay, d1	40.2	24.8		48.2	40.4	32.4	48.3	38.7		47.9	34.1	38.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	eger englis	1.00	1.00	1.00
Incremental Delay, d2	33.8	0.7		3.6	50.4	0.1	29.7	8.9		7.7	1.0	15.7
Delay (s)	74.0	25.5		51.8	90.7	32.6	78.0	47.6	1 42	55.6	35.2	53.8
Level of Service	E	С		D	F	С	E	D		Е	D	D
Approach Delay (s)		44.1			81.5			54.1			45.7	
Approach LOS		D			F			D			D	
Intersection Summary												
HCM Average Control De	elay		55.9	Н	CM Lev	el of Se	rvice		Е			
<b>HCM Volume to Capacity</b>	/ ratio		0.95	·uggetion.			,					100
Actuated Cycle Length (s		1	0.80	S	um of lo	st time (	(s)		12.0			
Intersection Capacity Util	ization	8	4.7%	IC	U Leve	of Serv	rice	and the	E			
Analysis Period (min)			15							- 9		
c Critical Lane Group							1					

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተ	7	14	<b>†</b> †	7	14.14	<b>^</b>	7	1/1/	<b>^</b>	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	*0.83	0.95	1.00	*0.85	0.95	1.00	0.97	0.95	1.00	0.97	*0.75	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00 1.00	1.00 0.85	1.00	1.00	1.00
Frt	1.00 0.95	1.00 1.00	0.85 1.00	1.00 0.95	1.00	0.85 1.00	1.00 0.95	1.00	1.00	1.00 0.95	1.00	0.85 1.00
Fit Protected	2938	3539	1583	3008	3539	1560	3433	3539	1560	3433	2794	1573
Satd. Flow (prot) Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2938	3539	1583	3008	3539	1560	3433	3539	1560	3433	2794	1573
	535	991	163	178	336	49	464	645	554	99	369	497
Volume (vph) Peak-hour factor, PHF	0.76	0.76	0.76	0.90	0.90	0.90	0.85	0.85	0.85	0.94	0.94	0.94
Adj. Flow (vph)	704	1304	214	198	373	54	546	759	652	105	393	529
RTOR Reduction (vph)	0	0	43	0	0/0	46	0	700	130	0	0	28
Lane Group Flow (vph)	704	1304	171	198	373	8	546	759	522	105	393	501
Confl. Peds. (#/hr)		1001		.00	0,0	2			2	, ,,,,		2
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	3	8	<i>*</i>	7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	30.7	37.0	37.0	9.3	15.6	15.6	18.8	36.4	36.4	7.1	24.7	55.4
Effective Green, g (s)	30.7	38.3	38.3	9.3	16.9	16.9	18.8	37.3	37.3	7.1	25.6	56.3
Actuated g/C Ratio	0.28	0.35	0.35	0.09	0.16	0.16	0.17	0.35	0.35	0.07	0.24	0.52
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9	4.0	4.9	4.0
Vehicle Extension (s)	0.5	2.0	2.0	0.5	2.0	2.0	0.5	2.0	2.0	0.5	2.0	0.5
Lane Grp Cap (vph)	835	1255	561	259	554	244	598	1222	539	226	662	820
v/s Ratio Prot	0.24	c0.37		0.07	c0.11		0.16	0.21		0.03	0.14	c0.17
v/s Ratio Perm			0.11			0.01			c0.33			0.14
v/c Ratio	0.84	1.04	0.31	0.76	0.67	0.03	0.91	0.62	0.97	0.46	0.59	0.61
Uniform Delay, d1	36.4	34.9	25.2	48.3	42.9	38.6	43.8	29.5	34.8	48.6	36.6	18.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.44	0.34	1.00	1.00	1.00
Incremental Delay, d2	7.5	36.1	0.1	11.4	2.5	0.0	12.0	1.4	23.2	0.6	3.9	1.0
Delay (s)	43.8	71.0	25.3	59.7	45.5	38.7	50.2	14.5	35.1	49.2	40.5	19.1
Level of Service	D	Е	С	E	D 10 1	D	D	В	D	D	D	В
Approach Delay (s)		58.0			49.4			31.3			30.4	
Approach LOS		E			D			C			С	
Intersection Summary												
HCM Average Control D			43.3	ł P	ICM Le	vel of Se	ervice		D			
HCM Volume to Capacit			0.93									
Actuated Cycle Length (s			108.0			ost time			12.0			
Intersection Capacity Uti	lization		81.5%		CU Lev	el of Ser	vice		D			
Analysis Period (min)			15							* * * * * * * * * * * * * * * * * * * *		
c Critical Lane Group												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1000	<b>ተ</b> ቀጉ		ă	ተተኩ		75	4		*5	4	
Ideal Flow (vphpl) Total Lost time (s)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	4.0 1.00	4.0 0.91		4.0 1.00	4.0		4.0	4.0		4.0	4.0	
Frpb, ped/bikes	1.00	1.00		1.00	0.91 1.00		0.95	0.95		0.95	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	de Territoria	1.00	0.92		1.00	1.00 0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	
Satd. Flow (prot)	1770	5051		1719	5058		1681	1611		1588	1568	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.97	
Satd. Flow (perm)	1770	5051		1719	5058		1681	1611		1588	1568	
Volume (vph)	24	973	17	21	1315	42	74	25	35	115	11	10
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.82	0.82	0.86	0.86	0.86	0.74	0.74	0.74
Adj. Flow (vph)	28	1131	20	26	1604	51	86	29	41	155	15	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	28	1151	0	26	1655	0	80	76	0	94	90	0
Confl. Peds. (#/hr)	007	Ó0/	2	<b>50</b> /		2	3		%			3
Heavy Vehicles (%)	2%	2%	24%	5%	2%	2%	2%	2%	3%	8%	9%	10%
Turn Type Protected Phases	Prot 5	2		Prot			Split			Split		
Permitted Phases	a.	. ,		1	6		3	3		4	4	
Actuated Green, G (s)	4.5	67.6		2.7	65.8		7.9	7.9		44.0	44.6	
Effective Green, g (s)	4.5	68.6		2.7	66.8		7.9	7.9		11.8 12.8	11.8 12.8	
Actuated g/C Ratio	0.04	0.64		0.03	0.62		0.07	0.07		0.12	0.12	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		5.0	5.0	
Vehicle Extension (s)	1.0	3.0		1.0	3.0		1.5	1.5		1.5	1.5	
Lane Grp Cap (vph)	74	3208		43	3128		123	118		188	186	<del></del>
v/s Ratio Prot	c0.02	0.23		0.02	c0.33		c0.05	0.05		c0.06	0.06	
v/s Ratio Perm											To Fill Tark	
v/c Ratio	0.38	0.36		0.60	0.53		0.65	0.64		0.50	0.48	
Uniform Delay, d1	50.4	9.3		52.1	11.7		48.7	48.7		44.6	44.5	
Progression Factor	1.00	1.00		1.12	1.23	å.	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2 51.6	0.3		9.9	0.4		9.0	8.7		8.0	0.7	
Delay (s) Level of Service	31.0 D	9.6 Δ		68.4	14.8 B		57.7 E	57.4	e sanciario	45.4	45.2	
Approach Delay (s)	J	10.6	* 4		15.7		E	E .		D	15 D	
Approach LOS		В	o Peropositi		13.7 B			57.6 E		and the said	45.3	
					U		::1:::::::::::::::::::::::::::::::::::	L.			D	
Intersection Summary			475									
HCM Volume to Consoit			17.5	Н	CM Lev	el of Se	rvice		В			
HCM Volume to Capacity Actuated Cycle Length (s			0.51 108.0	C.	- ا کی مص		(~\		400			
Intersection Capacity Util			4.4%		um of lo U Leve				12.0	. 2		
Analysis Period (min)		-	15		O LEVE	i oi Sell	VICE		Α	e i sa sai		
c Critical Lane Group	National design	e de la co	•									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ተተ <sub>ጉ</sub>		Ä	ተተተ	7	ħ	<b>†</b>	ሻሻ	*	4	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	18 28 3	1.00	0.91	1.00	1.00	1.00	0.88	1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00	1.00	0.99	0.98
Flpb, ped/bikes	1.00	1.00		1,00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5003		1770	5085	1532	1736	1712	2733	1752	1543	1481
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5003		1770	5085	1532	1736	1712	2733	1752	1543	1481
Volume (vph)	114	1027	41	89	880	181	72	42	233	256	113	708
Peak-hour factor, PHF	0.81	0.81	0.81	0.91	0.91	0.91	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	141	1268	51	98	967	199	94	55	303	291	128	805
RTOR Reduction (vph)	0	0	0	0	0	125	0	0	61	0	0	0
Lane Group Flow (vph)	141	1319	0	98	967	74	94	55	243	291	501	432
Confl. Peds. (#/hr)						2	3		412.			3
Heavy Vehicles (%)	2%	3%	5%	2%	2%	3%	4%	11%	4%	3%	5%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases						6			3			4
Actuated Green, G (s)	12.3	41.4		9.6	38.7	38.7	9.0	9.0	9.0	31.0	31.0	31.0
Effective Green, g (s)	12.0	42.7		9.3	40.0	40.0	9.0	9.0	9.0	31.0	31.0	31.0
Actuated g/C Ratio	0.11	0.40		0.09	0.37	0.37	0.08	0.08	0.08	0.29	0.29	0.29
Clearance Time (s)	3.7	5.3		3.7	5.3	5.3	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	2.0	4.1		2.0	4.5	4.5	4.5	4.5	4.5	7.1	7.1	7.1
Lane Grp Cap (vph)	197	1978		152	1883	567	145	143	228	503	443	425
v/s Ratio Prot	0.08	c0.26		0.06	c0.19		0.05	0.03		0.17	c0.32	
v/s Ratio Perm						0.05			c0.09			0.29
v/c Ratio	0.72	0.67		0.64	0.51	0.13	0.65	0.38	1.06	0.58	1.13	1.02
Uniform Delay, d1	46.4	26.8		47.8	26.4	22.5	48.0	46.9	49.5	32.9	38.5	38.5
Progression Factor	1.06	0.79		0.64	0.64	0.40	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4	1.7		3.8	0.6	0.0	11.7	3.0	77.4	3.9	83.6	47.9
Delay (s)	58.4	22.9		34.2	17.6	9.0	59.6	49.8	126.9	36.8	122.1	86.4
Level of Service	Е	С		С	В	Α	Е	D	F	D	F	F
Approach Delay (s)		26.3			17.5			103.6			89.2	
Approach LOS		С			В			F			F	
Intersection Summary												
HCM Average Control De	elav		49.2	ŀ	ICM Lev	vel of Se	rvice		D			
HCM Volume to Capacity			0.82		.OM LO							
Actuated Cycle Length (s			108.0	C	Sum of h	ost time	(s)		12.0		**	
Intersection Capacity Util			65.2%			el of Ser			, Z.0			, W
Analysis Period (min)			15		, , ,	J. JJ.						
c Critical Lane Group						1.41.14						
C. C.I.I.C.I. Lario G. Cup	* * -			100					5 " " "			

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Movement	EBL2	EBL	EBT	EBA	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL	SBT
Lane Configurations		je.	ተተተ	7	ተተ ን		7	ሻ	4	7		<del></del>
Ideal Flow (vphpl)	1900	1900	1900	1900		1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lane Util. Factor		1.00	0.91	1.00	0.86		0.86	0.95	0.95	1.00		1.00
Frpb, ped/bikes		1.00	1.00	0.98	0.99		0.97	1.00	1.00	0.99		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	0.97		0.85	1.00	1.00	0.85		0.92
Flt Protected		0.95	1.00	1.00	1.00		1.00	0.95	0.96	1.00		0.98
Satd. Flow (prot)		1770	5085	1504	4565		1109	1681	1687	1561		1497
Flt Permitted		0.95	1.00	1.00	1.00		1.00	0.95	0.96	1.00		0.76
Satd. Flow (perm)		1770	5085	1504	4565		1109	1681	1687	1561		1163
Volume (vph)	6	16	1038	456	739	216	9	391	27	713	17	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.88	0.88	0.88	0.60	0.60
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	125%	100%	100%
Adj. Flow (vph)	7	19	1207	530	869	254	11	444	31	1013	28	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	. 0	33	0	0
Lane Group Flow (vph)	0	26	1207	530	1123	0	11	236	239	980	0	71
Confl. Peds. (#/hr)	2			4		2	2			2	2	
Heavy Vehicles (%)	2%	2%	2%	5%	2%	7%	22%	2%	6%	2%	12%	2%
Turn Type	Prot	Prot		Free			Perm	Split	Prot	Perm	Perm	· · · · · · · · · · · · · · · · · · ·
Protected Phases	5	5	2		6			3	3			4
Permitted Phases		100		Free			6			3	4	
Actuated Green, G (s)		6.6	30.8	108.0	20.1		20.1	56.0	56.0	56.0		8.0
Effective Green, g (s)		6.3	31.7	108.0	21.4		21.4	56.6	56.6	56.6		7.7
Actuated g/C Ratio		0.06	0.29	1.00	0.20		0.20	0.52	0.52	0.52		0.07
Clearance Time (s)		3.7	4.9		5.3	syl of the	5.3	4.6	4.6	4.6		3.7
Vehicle Extension (s)		2.0	5.1		4.2	·	4.2	5.0	5.0	5.0		1.5
Lane Grp Cap (vph)		103	1493	1504	905		220	881	884	818		83
v/s Ratio Prot		0.01	c0.24		c0.25			0.14	0.14			
v/s Ratio Perm	tin silve	42124	vilonija s	0.35		100	0.01			c0.63	Start Comment	c0.06
v/c Ratio		0.25	0.81	0.35	1.24		0.05	0.27	0.27	1.20		0.86
Uniform Delay, d1		48.6	35.3	0.0	43.3		35.1	14.2	14.3	25.7		49.6
Progression Factor		0.76	0.49	1.00	0.71		0.47	1.00	1.00	1.00		1.00
Incremental Delay, d2		0,3	3.3	0.5	116.2		0.4	0.3	0.3	100.7		52.0
Delay (s)		37.5	20.5	0.5	147.0		16.7	14.6	14.6	126.4		101.6
Level of Service		D	C	Α	F		В	В	В	F		F
Approach Delay (s)			14.7		145.8				90.7			101.6
Approach LOS			<b>B</b>		F				F			F
Intersection Summary												
<b>HCM Average Control De</b>		F 17 / 1	74.8	Н	CM Lev	el of Se	rvice		Ε			
<b>HCM Volume to Capacity</b>		-	1.13						. –			
Actuated Cycle Length (s			108.0	S	um of lo	st time	(s)		12.0			
Intersection Capacity Utili	zation	9	92.1%		U Level				F			
Analysis Period (min)			15									
c Critical Lane Group											*	



Movement	SBR SBR2
Lant Configurations	
ideal Flow (vphpl)	1900 1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Fit Protected	
Satd. Flow (prot)	
FIt Permitted	
Satd. Flow (perm)	
Volume (vph)	
Peak-hour factor, PHF	0.60 0.60
Growth Factor (vph)	100% 100%
Adj. Flow (vph)	33 - 10
RTOR Reduction (vph)	
Lane Group Flow (vph)	0 0
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	12% 28%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	en en en en en en en en en en en en en e
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	en en la companya de la companya de la companya de la companya de la companya de la companya de la companya de
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor Incremental Delay, d2	
Delay (s)	
Level of Service	ing personal and the contract of the contract
Approach Delay (s)	
Approach LOS	
Approach Delay (s) Approach LOS Intersection Summary	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ተፈ	<b>^</b>	**	<b>ሕ</b> ካ	ተተተ	7	ሽኘ	ተተ <i>ጉ</i>		ট্র	<b>↑</b> \$	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s) Lane Util. Factor	4.0 *0.75	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Frpb, ped/bikes	1.00	0.95 1.00	1.00 0.99	0.97 1.00	0.91	1.00	*0.75	0.91		1.00	0.91	0.91
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00 1.00	0.99	1.00	1.00		1.00	0.99	0.99
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00 0.99		1.00	1.00	1.00
Flt Protected	0.95	1,00	1.00	0.95	1.00	1.00	0.95	1.00		1.00 0.95	0.94	0.85
Satd. Flow (prot)	2654	3539	1560	3433	4988	1560	2629	4956		1770	1.00 3076	1.00 1406
Flt Permitted	0.95	1.00	1.00	0.95	1,00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	2654	3539	1560	3433	4988	1560	2629	4956		1770	3076	1406
Volume (vph)	718	928	99	34	483	128	198	541	54	84	186	270
Peak-hour factor, PHF	0.92	0.92	0.92	0.70	0.70	0.70	0.76	0.76	0.76	0.86	0.86	0.86
Adj. Flow (vph)	780	1009	108	49	690	183	261	712	71	98	216	314
RTOR Reduction (vph)	0	0	52	0	0	36	0	0	0	0	0	0
Lane Group Flow (vph)	780	1009	56	49	690	147	261	783	0	98	371	159
Confl. Peds. (#/hr)			2			2			3			2
Heavy Vehicles (%)	2%	2%	2%	2%	4%	2%	3%	3%	4%	2%	6%	3%
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	27.0	54.9	54.9	4.9	32.8	32.8	12.1	21.1		8.1	1.7.1	17.1
Effective Green, g (s)	27.6	55.8	55.8	5.5	33.7	33.7	12.7	22.0		8.7	18.0	18.0
Actuated g/C Ratio Clearance Time (s)	0.26 4.6	0.52	0.52	0.05	0.31	0.31	0.12	0.20		0.08	0.17	0.17
Vehicle Extension (s)	1.5	4.9 2.0	4.9 2.0	4.6	4.9	4.9	4.6	4.9		4.6	4.9	4.9
Lane Grp Cap (vph)	678	1828	806	1.0 175	2.0	2.0	1.0	2.0		0.5	2.0	2.0
v/s Ratio Prot	c0.29	c0.29	000	0,01	1556	487	309	1010		143	513	234
v/s Ratio Perm	Ç0.23	00.29	0.04	0,01	c0.14	0.09	c0.10	c0.16		0.06	0.12	
v/c Ratio	1.15	0.55	0.07	0.28	0.44	0.30	0.84	0.78		0.00	0.70	0.11
Uniform Delay, d1	40.2	17.6	13.1	49.3	29.7	28.2	46.7	40.7		0.69 48.3	0.72	0.68
Progression Factor	0.85	0.74	0.47	1.00	1.00	1.00	1.00	1.00		0.86	42.6 0.58	42.3 0.57
Incremental Delay, d2	72.7	0.3	0.0	0.3	0.9	1.6	17.9	3.4		8.6	3.5	5.0
Delay (s)	106.9	13.3	6.2	49.7	30.6	29.8	64.6	44.1		50.4	28.1	29.1
Level of Service	F	В	Α	D	С	С	Е	D		D	C	C
Approach Delay (s)		51.4			31.4			49.2	4.1	4 - Ta	31.8	
Approach LOS		D			C			D			С	
Intersection Summary												
HCM Average Control De	elay		44.1	Н	CM Lev	el of Se	rvice		D			
<b>HCM Volume to Capacity</b>			0.85									
Actuated Cycle Length (s	3)		108.0		um of lo				20.0			
Intersection Capacity Util	ization	7	2.3%		U Leve				С			
Analysis Period (min)			15								4	
c Critical Lane Group				Januari De Aston								

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Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		ሾቬ	ተተጉ			ሽካ	<b>ተ</b> ተጉ			K	ተተጉ	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0			4.0	4.0	
Lane Util. Factor		0.97				0.97	0.91			1.00	0.91	
Frpb, ped/bikes		1.00	0.99			1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	
Frt		1.00	0.98			1.00	0.94			1.00	0.98	
FIt Protected		0.95	1.00	1 5 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1		0.95	1.00			0.95	1.00	
Satd. Flow (prot)		3367	4797			3277	4617			1689	4859	
Fit Permitted		0.95	1.00			0.95	1.00			0.95	1.00	
Satd. Flow (perm)		3367	4797			3277	4617			1689	4859	
Volume (vph)	2	288	254	46	4	144	302	200	3	86	1226	143
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.63	0.63	0.63	0.63	0.86	0.86	0.86	0.86
Adj. Flow (vph)	2	324	285	52	6	229	479	317	3	100	1426	166
RTOR Reduction (vph)	0	0	0	0	0	0	Ó	0	Ö	0	0	0
Lane Group Flow (vph)	0	326	337	0	0	235	796	0	0	103	1592	0
Confl. Peds. (#/hr)				12				11			,	10
Heavy Vehicles (%)	2%	4%	4%	11%	2%	7%	4%	5%	2%	7%	5%	3%
Turn Type	Prot	Prot		· · · · · · · · · · · · · · · · · · ·	Prot	Prot	<u></u>		Prot	Prot		
Protected Phases	7	7	4	40	3	3	8		5	5	2	
Permitted Phases												
Actuated Green, G (s)		14.1	26.3			11.5	23.7			9.1	31.1	
Effective Green, g (s)		15.3	26.7			12.7	24.1			8.8	31.5	
Actuated g/C Ratio		0.15	0.26			0.12	0.23			0.09	0.31	
Clearance Time (s)		5.2	4.4			5.2	4.4			3.7	4.4	
Vehicle Extension (s)		2.0	5.2			2.0	5.2		Sau Si	2.0	5.2	
Lane Grp Cap (vph)	<u> </u>	502	1248			406	1085			145	1492	· · · · · · · · · · · · · · · · · · ·
v/s Ratio Prot	1. 8. 1.	c0.10	c0.07	1.5		0.07	c0.17	Marian de		0.06	c0.33	
v/s Ratio Perm		0,000				. , FIFS .	76733	a 1 31			e e carero	
v/c Ratio	4 47	0.65	0.27			0.58	0.90dr			0.71	1.07	
Uniform Delay, d1		41.1	30.2			42.4	36.3			45.7	35.5	
Progression Factor		1.00	1.00			1.00	1.00			1.00	1.00	
Incremental Delay, d2		2.2	0.3			1.2	3.2			12.8	43.5	
Delay (s)		43.3	30.5			43.7	39.5			58.4	79.0	
Level of Service		D	C			D	D	•		E	E	
Approach Delay (s)		nga Te	36.8			, a a 5.	40.5			- 10 A	77.8	
Approach LOS			D		*		D				Е	
Intersection Summary	ala		50.0		ICMLa	val at C	amilaa		D			
HCM Average Control D		. See Line	50.0	ſ	чом ге	vel of S	ervice		_			2.1
HCM Volume to Capacit			0.89				<b>/-</b> >		00.0		ale de la se	
Actuated Cycle Length (			102.6			ost time			20.0			
Intersection Capacity Uti	ilization		70.6%	1	CU Lev	el of Se	rvice		С			
Analysis Period (min)	Boss	المدادين الم	15	ے" نے مرتب اڑا کا		4 1 a b					. 1 3412.1	
dr Defacto Right Lane	Heco	e with	i tnoug	n lane a	is a righ	ı ıane.			To the first	" [1] [		

c Critical Lane Group

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Movement	SBU	SBL	SBT	SBR	
Lane Configurations		Ğ	ተተተ	7	
Ideal Flow (vphpl)	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0	4.0	
Lane Util. Factor		1.00	0.91	1.00	
Frpb, ped/bikes		1.00	1.00	0.96	
Flpb, ped/bikes		1.00	1.00	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00	
Satd. Flow (prot)		1755	4893	1483	
Flt Permitted		0.95	1.00	1.00	
Satd. Flow (perm)		1755	4893	1483	
Volume (vph)	25	150	828	177	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	
Adj. Flow (vph)	31	188	1035	221	
RTOR Reduction (vph)	0	Ó	0	44	
Lane Group Flow (vph)	. 0	219	1035	177	
Confl. Peds. (#/hr)		*		15	
Heavy Vehicles (%)	2%	3%	6%	5%	
Turn Type	Prot	Prot		Perm	
Protected Phases	1	1	6		
Permitted Phases				6	
Actuated Green, G (s)		16.0	38.0	38.0	
Effective Green, g (s)		15.7	38.4	38.4	
Actuated g/C Ratio		0.15	0.37	0.37	
Clearance Time (s)		3.7	4.4	4.4	
Vehicle Extension (s)		2.0	5.2	5.2	
Lane Grp Cap (vph)		269	1831	555	
v/s Ratio Prot		c0.12	0.21		
v/s Ratio Perm				0.12	
v/c Ratio		0.81	0.57	0.32	
Uniform Delay, d1		42.0	25.5	22.8	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		16.2	0.7	0.7	
Delay (s)		58.2	26.2	23.5	and the commence of the commence of the contraction
Level of Service		E	C	С	
Approach Delay (s)			30.5		
Approach LOS			С		and the second of the second o
Intersection Summary					

	•	۶	-	•	•	4-	4	1	Ť	<i>&gt;</i>	-	<b>+</b>
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		ă	<b>^</b>	"آ	J.	<b>^</b> }		¥	4			4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95		0.95	0.95			1.00
Frpb, ped/bikes		1.00	1.00	0.98	1.00	1.00		1.00	1.00			0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Frt		1.00	1.00	0.85	1.00	1.00		1.00	0.98			0.96
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	0.97			1.00
Satd. Flow (prot)		1731	3539	1498	1719	3379		1603	1630			1735
FIt Permitted		0.95	1.00	1.00	0.95	1.00		0.95	0.97			1.00
Satd. Flow (perm)		1731	3539	1498	1719	3379		1603	1630			1735
Volume (vph)	20	59	761	597	129	702	24	600	140	49	16	185
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.79	0.79	0.79	0.86	0.86	0.86	0.74	0.74
Adj. Flow (vph)	23	69	885	694	163	889	30	698	163	57	22	250
RTOR Reduction (vph)	0	0	0	141	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	92	885	553	163	919	0	451	467	0	. 0	379
Confl. Peds. (#/hr)				3			4	6		2	2	
Heavy Vehicles (%)	2%	5%	2%	6%	5%	6%	12%	7%	3%	8%	44%	2%
Turn Type	Prot	Prot	***	Perm	Prot			Split			Split	
Protected Phases	5	5	2		1	6		3	3		4	4
Permitted Phases				2								
Actuated Green, G (s)		12.8	31.2	31.2	12.8	31.2		25.0	25.0			22.0
Effective Green, g (s)		12.8	32.2	32.2	12.8	32.2		25.0	25.0			22.0
Actuated g/C Ratio		0.12	0.30	0.30	0.12	0.30		0.23	0.23			0.20
Clearance Time (s)		4.0	5.0	5.0	4.0	5.0		4.0	4.0			4.0
Vehicle Extension (s)	ting the second	1.5	2.0	2.0	1.5	2.0		2.0	2.0	1528		2.0
Lane Grp Cap (vph)		205	1055	447	204	1007		371	377			353
v/s Ratio Prot		0.05	0.25	5 3 4 2 2 5 2 5 4 2 2 5 1	c0.09	0.27		0.28	c0.29			c0.22
v/s Ratio Perm				c0.37								
v/c Ratio		0.45	0.84	1,24	0.80	0.91		1.22	1.24			1.07
Uniform Delay, d1		44.3	35.5	37.9	46.3	36.5		41.5	41.5			43.0
Progression Factor		1.00	1.00	1.00	0.70	0.56		1.00	1.00			1.00
Incremental Delay, d2		0.6	8.0	124.6	16.5	12.7		119.3	128.2			68.9
Delay (s)		44.9	43.5	162.5	49.1	33.0		160.8	169.7			111.9
Level of Service		D	D	F	D	Ċ		F	F			F
Approach Delay (s)			93.0			35.4			165.3			111.9
Approach LOS			F			D			F			F
Intersection Summary												
HCM Average Control De	elay		95.8	F	HCM Le	vel of Se	ervice		F			
<b>HCM Volume to Capacity</b>		1.7	1.14									
Actuated Cycle Length (s			108.0	5	Sum of I	ost time	(s)		16.0			
Intersection Capacity Util			80.8%		CU Leve				D			
Analysis Period (min)			15									
c Critical Lane Group		5,4 96		erene								
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		0.00
Movement	SBR	
Lant Configurations Ideal Flow (vphpl)	1 <b>1900</b> - Carlos	
Total Lost time (s)	1800 p. 18 19 19 19 19 19 19 19 19 19 19 19 19 19	
Lane Util. Factor		
Frpb, ped/bikes	and the control of th	
Flpb, ped/bikes		
Frt	and the second of the second o	
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Volume (vph)	79	
Peak-hour factor, PHF	0.74	
Adj. Flow (vph)	107	
RTOR Reduction (vph)	0	
Lane Group Flow (vph)		
Confl. Peds. (#/hr)	6	
Heavy Vehicles (%)	2%	
Turn Type		
English and the Artist of English and the Control of the Control o		
Protected Phases		
Permitted Phases		
Permitted Phases Actuated Green, G (s)		
Permitted Phases Actuated Green, G (s) Effective Green, g (s)		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s)		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s)		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph)		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s)		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s)		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s)		
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service		

Movement
Ideal Flow (vphpl)         1900
Ideal Flow (vphpl)
Lane Util. Factor 0.95 0.95 1.00 1.00 Frt 1.00 1.00 1.00 0.85 Fit Protected 1.00 1.00 0.95 1.00 Satd. Flow (prot) 3505 3406 1752 1538 Fit Permitted 1.00 1.00 0.95 1.00 Satd. Flow (perm) 3505 3406 1752 1538 Volume (vph) 0 765 654 0 80 291 Peak-hour factor, PHF 0.86 0.86 0.83 0.83 0.88 0.88 Adj. Flow (vph) 0 890 788 0 91 331 RTOR Reduction (vph) 0 0 0 0 0 79 Lane Group Flow (vph) 0 890 788 0 91 252 Heavy Vehicles (%) 2% 3% 6% 2% 3% 5% Turn Type Protected Phases Actuated Green, G (s) 75.6 75.6 23.2 23.2 Effective Green, g (s) 76.2 76.2 23.8 23.8 Actuated g/C Ratio 0.71 0.71 0.22 0.22 Clearance Time (s) 4.6 4.6 4.6 4.6 Vehicle Extension (s) 6.8 7.5 5.5 5.5 Lane Grp Cap (vph) 2473 2403 386 339 v/s Ratio Prot v/s Ratio 0.36 0.33 0.24 0.74 Uniform Delay, d1 6.3 6.1 34.6 39.3
Frt 1.00 1.00 1.00 0.85  Fit Protected 1.00 1.00 0.95 1.00  Satd. Flow (perm) 3505 3406 1752 1538  Fit Permitted 1.00 1.00 0.95 1.00  Satd. Flow (perm) 3505 3406 1752 1538  Volume (vph) 0 765 654 0 80 291  Peak-hour factor, PHF 0.86 0.86 0.83 0.83 0.88 0.88  Adj. Flow (vph) 0 890 788 0 91 331  RTOR Reduction (vph) 0 890 788 0 91 252  Lane Group Flow (vph) 0 890 788 0 91 252  Heavy Vehicles (%) 2% 3% 6% 2% 3% 5%  Turn Type Perm  Protected Phases 2 6 4  Permitted Phases 4 4  Actuated Green, G (s) 75.6 75.6 23.2 23.2  Effective Green, g (s) 76.2 76.2 23.8 23.8  Actuated g/C Ratio 0.71 0.71 0.22 0.22  Clearance Time (s) 4.6 4.6 4.6 4.6  Vehicle Extension (s) 6.8 7.5 5.5 5.5  Lane Grp Cap (vph) 2473 2403 386 339  v/s Ratio Prot v/s Ratio 0.36 0.33 0.24 0.74  Uniform Delay, d1 6.3 6.1 34.6 39.3
Fit Protected 1.00 1.00 0.95 1.00 Satd. Flow (prot) 3505 3406 1752 1538 Fit Permitted 1.00 1.00 0.95 1.00 Satd. Flow (perm) 3505 3406 1752 1538 Volume (vph) 0 765 654 0 80 291 Peak-hour factor, PHF 0.86 0.86 0.83 0.83 0.88 0.88 Adj. Flow (vph) 0 890 788 0 91 331 RTOR Reduction (vph) 0 0 0 0 0 79 Lane Group Flow (vph) 0 890 788 0 91 252 Heavy Vehicles (%) 2% 3% 6% 2% 3% 5%  Turn Type Permitted Phases 2 6 4 Permitted Phases Permitted Phases Actuated Green, G (s) 75.6 75.6 23.2 23.2 Effective Green, g (s) 76.2 76.2 23.8 23.8 Actuated g/C Ratio 0.71 0.71 0.22 0.22 Clearance Time (s) 4.6 4.6 4.6 4.6 Vehicle Extension (s) 6.8 7.5 5.5 5.5 Lane Grp Cap (vph) 2473 2403 386 339 v/s Ratio Prot c0.25 0.23 0.05 v/s Ratio Perm v/c Ratio 0.36 0.33 0.24 0.74 Uniform Delay, d1 6.3 6.1 34.6 39.3
Satd. Flow (prot)       3505       3406       1752       1538         Flt Permitted       1.00       1.00       0.95       1.00         Satd. Flow (perm)       3505       3406       1752       1538         Volume (vph)       0       765       654       0       80       291         Peak-hour factor, PHF       0.86       0.83       0.83       0.88       0.88         Adj. Flow (vph)       0       890       78       0       91       331         RTOR Reduction (vph)       0       0       0       0       79         Lane Group Flow (vph)       0       890       788       0       91       252         Heavy Vehicles (%)       2%       3%       6%       2%       3%       5%         Turn Type       Perm         Protected Phases       2       6       4         Actuated Green, G (s)       75.6       75.6       23.2       23.2         Effective Green, g (s)       76.2       76.2       23.8       23.8         Actuated g/C Ratio       0.71       0.71       0.22       0.22         Clearance Time (s)       4.6       4.6       4.6       4.6
Fit Permitted 1.00 1.00 0.95 1.00  Satd. Flow (perm) 3505 3406 1752 1538  Volume (vph) 0 765 654 0 80 291  Peak-hour factor, PHF 0.86 0.86 0.83 0.83 0.88 0.88  Adj. Flow (vph) 0 890 788 0 91 331  RTOR Reduction (vph) 0 0 0 0 0 79  Lane Group Flow (vph) 0 890 788 0 91 252  Heavy Vehicles (%) 2% 3% 6% 2% 3% 5%  Turn Type  Protected Phases 2 6 4  Permitted Phases  Actuated Green, G (s) 75.6 75.6 23.2 23.2  Effective Green, g (s) 76.2 76.2 23.8 23.8  Actuated g/C Ratio 0.71 0.71 0.22 0.22  Clearance Time (s) 4.6 4.6 4.6  Vehicle Extension (s) 6.8 7.5 5.5 5.5  Lane Grp Cap (vph) 2473 2403 386 339  v/s Ratio Prot
Satd. Flow (perm)         3505         3406         1752         1538           Volume (vph)         0         765         654         0         80         291           Peak-hour factor, PHF         0.86         0.86         0.83         0.83         0.88         0.88           Adj. Flow (vph)         0         890         788         0         91         331           RTOR Reduction (vph)         0         0         0         0         79         Lane Group Flow (vph)         0         890         788         0         91         252           Heavy Vehicles (%)         2%         3%         6%         2%         3%         5%           Turn Type         Perm         Perm           Protected Phases         2         6         4           Actuated Phases         4         4         4           Actuated Green, G (s)         75.6         75.6         23.2         23.2         23.2           Effective Green, g (s)         76.2         76.2         23.8         23.8         23.8           Actuated g/C Ratio         0.71         0.71         0.22         0.22           Clearance Time (s)         4.6         4.6
Volume (vph)         0         765         654         0         80         291           Peak-hour factor, PHF         0.86         0.86         0.83         0.83         0.88         0.88           Adj. Flow (vph)         0         890         788         0         91         331           RTOR Reduction (vph)         0         0         0         0         79         0           Lane Group Flow (vph)         0         890         788         0         91         252           Heavy Vehicles (%)         2%         3%         6%         2%         3%         5%           Turn Type         Perm         Perm           Protected Phases         2         6         4           Permitted Phases         4         4           Actuated Green, G (s)         75.6         75.6         23.2         23.2           Effective Green, g (s)         76.2         76.2         23.8         23.8           Actuated g/C Ratio         0.71         0.71         0.22         0.22           Clearance Time (s)         4.6         4.6         4.6         4.6           Vehicle Extension (s)         6.8         7.5         5.5
Peak-hour factor, PHF         0.86         0.86         0.83         0.83         0.88         0.88           Adj. Flow (vph)         0         890         788         0         91         331           RTOR Reduction (vph)         0         0         0         0         79           Lane Group Flow (vph)         0         890         788         0         91         252           Heavy Vehicles (%)         2%         3%         6%         2%         3%         5%           Turn Type         Perm           Protected Phases         2         6         4           Permitted Phases         4         4           Actuated Green, G (s)         75.6         75.6         23.2         23.2           Effective Green, g (s)         76.2         76.2         23.8         23.8           Actuated g/C Ratio         0.71         0.71         0.22         0.22           Clearance Time (s)         4.6         4.6         4.6         4.6           Vehicle Extension (s)         6.8         7.5         5.5         5.5           Lane Grp Cap (vph)         2473         2403         386         339           v/s Ratio Perm
Adj. Flow (vph) 0 890 788 0 91 331  RTOR Reduction (vph) 0 0 0 0 0 79  Lane Group Flow (vph) 0 890 788 0 91 252  Heavy Vehicles (%) 2% 3% 6% 2% 3% 5%  Turn Type Perm  Protected Phases 2 6 4  Permitted Phases 4  Actuated Green, G (s) 75.6 75.6 23.2 23.2  Effective Green, g (s) 76.2 76.2 23.8 23.8  Actuated g/C Ratio 0.71 0.71 0.22 0.22  Clearance Time (s) 4.6 4.6 4.6 4.6  Vehicle Extension (s) 6.8 7.5 5.5 5.5  Lane Grp Cap (vph) 2473 2403 386 339  v/s Ratio Prot c0.25 0.23 0.05  v/s Ratio Perm c0.16  v/c Ratio 0.36 0.33 0.24 0.74  Uniform Delay, d1 6.3 6.1 34.6 39.3
RTOR Reduction (vph)       0       0       0       0       79         Lane Group Flow (vph)       0       890       788       0       91       252         Heavy Vehicles (%)       2%       3%       6%       2%       3%       5%         Turn Type       Perm         Protected Phases       2       6       4         Permitted Phases       4       4         Actuated Green, G (s)       75.6       75.6       23.2       23.2         Effective Green, g (s)       76.2       76.2       23.8       23.8         Actuated g/C Ratio       0.71       0.71       0.22       0.22         Clearance Time (s)       4.6       4.6       4.6       4.6         Vehicle Extension (s)       6.8       7.5       5.5       5.5         Lane Grp Cap (vph)       2473       2403       386       339         v/s Ratio Prot       c0.25       0.23       0.05         v/s Ratio Perm       c0.16         v/c Ratio       0.36       0.33       0.24       0.74         Uniform Delay, d1       6.3       6.1       34.6       39.3
Lane Group Flow (vph)       0       890       788       0       91       252         Heavy Vehicles (%)       2%       3%       6%       2%       3%       5%         Turn Type       Perm         Protected Phases       4         Actuated Phases       4         Actuated Green, G (s)       75.6       75.6       23.2       23.2         Effective Green, g (s)       76.2       76.2       23.8       23.8         Actuated g/C Ratio       0.71       0.71       0.22       0.22         Clearance Time (s)       4.6       4.6       4.6       4.6         Vehicle Extension (s)       6.8       7.5       5.5       5.5         Lane Grp Cap (vph)       2473       2403       386       339         v/s Ratio Prot       c0.25       0.23       0.05         v/s Ratio Perm       c0.16       c0.16         v/c Ratio       0.36       0.33       0.24       0.74         Uniform Delay, d1       6.3       6.1       34.6       39.3
Heavy Vehicles (%)         2%         3%         6%         2%         3%         5%           Turn Type         Perm           Protected Phases         2         6         4           Permitted Phases         4         4           Actuated Green, G (s)         75.6         75.6         23.2         23.2           Effective Green, g (s)         76.2         76.2         23.8         23.8           Actuated g/C Ratio         0.71         0.71         0.22         0.22           Clearance Time (s)         4.6         4.6         4.6         4.6           Vehicle Extension (s)         6.8         7.5         5.5         5.5           Lane Grp Cap (vph)         2473         2403         386         339           v/s Ratio Prot         c0.25         0.23         0.05           v/s Ratio Perm         c0.16         c0.16           v/c Ratio         0.36         0.33         0.24         0.74           Uniform Delay, d1         6.3         6.1         34.6         39.3
Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Ves Ratio Perm  Co.16 V/C Ratio  0.36 0.33 0.24 0.74 Uniform Delay, d1  Actuated Phases  4  Actuated Phases 4  Actuated Green, G (s) 75.6 75.6 23.2 23.2 23.2 23.8 23.8  Actuated g/C Ratio 0.71 0.71 0.22 0.22 0.22 0.22 0.25 0.25 0.25 0.26 0.05 0.05 0.05 0.05 0.06 0.06 0.07 0.07 0.07 0.07 0.07 0.07
Protected Phases 2 6 4  Permitted Phases 4  Actuated Green, G (s) 75.6 75.6 23.2 23.2  Effective Green, g (s) 76.2 76.2 23.8 23.8  Actuated g/C Ratio 0.71 0.71 0.22 0.22  Clearance Time (s) 4.6 4.6 4.6  Vehicle Extension (s) 6.8 7.5 5.5 5.5  Lane Grp Cap (vph) 2473 2403 386 339  v/s Ratio Prot c0.25 0.23 0.05  v/s Ratio Perm  v/c Ratio 0.36 0.33 0.24 0.74  Uniform Delay, d1 6.3 6.1 34.6 39.3
Permitted Phases  Actuated Green, G (s)  75.6  75.6  23.2  23.2  Effective Green, g (s)  Actuated g/C Ratio  0.71  0.71  0.22  Clearance Time (s)  4.6  Vehicle Extension (s)  4.6  Vehicle Extension (s)  4.6  Vehicle Extension (s)  4.6  Vehicle Extension (s)  4.6  4.6  4.6  4.6  Vehicle Extension (s)  6.8  7.5  5.5  5.5  Lane Grp Cap (vph)  2473  2403  386  339  v/s Ratio Prot  c0.25  0.23  0.05  v/s Ratio Perm  v/c Ratio  0.36  0.33  0.24  0.74  Uniform Delay, d1  6.3  6.1  34.6  39.3
Actuated Green, G (s) 75.6 75.6 23.2 23.2  Effective Green, g (s) 76.2 76.2 23.8 23.8  Actuated g/C Ratio 0.71 0.71 0.22 0.22  Clearance Time (s) 4.6 4.6 4.6  Vehicle Extension (s) 6.8 7.5 5.5 5.5  Lane Grp Cap (vph) 2473 2403 386 339  v/s Ratio Prot c0.25 0.23 0.05  v/s Ratio Perm c0.16  v/c Ratio 0.36 0.33 0.24 0.74  Uniform Delay, d1 6.3 6.1 34.6 39.3
Effective Green, g (s) 76.2 76.2 23.8 23.8  Actuated g/C Ratio 0.71 0.71 0.22 0.22  Clearance Time (s) 4.6 4.6 4.6  Vehicle Extension (s) 6.8 7.5 5.5 5.5  Lane Grp Cap (vph) 2473 2403 386 339  v/s Ratio Prot c0.25 0.23 0.05  v/s Ratio Perm c0.16  v/c Ratio 0.36 0.33 0.24 0.74  Uniform Delay, d1 6.3 6.1 34.6 39.3
Actuated g/C Ratio 0.71 0.71 0.22 0.22 Clearance Time (s) 4.6 4.6 4.6 Vehicle Extension (s) 6.8 7.5 5.5 5.5  Lane Grp Cap (vph) 2473 2403 386 339 v/s Ratio Prot c0.25 0.23 0.05 v/s Ratio Perm c0.16 v/c Ratio 0.36 0.33 0.24 0.74 Uniform Delay, d1 6.3 6.1 34.6 39.3
Clearance Time (s)       4.6       4.6       4.6         Vehicle Extension (s)       6.8       7.5       5.5       5.5         Lane Grp Cap (vph)       2473       2403       386       339         v/s Ratio Prot       c0.25       0.23       0.05         v/s Ratio Perm       c0.16         v/c Ratio       0.36       0.33       0.24       0.74         Uniform Delay, d1       6.3       6.1       34.6       39.3
Vehicle Extension (s)         6.8         7.5         5.5         5.5           Lane Grp Cap (vph)         2473         2403         386         339           v/s Ratio Prot         c0.25         0.23         0.05           v/s Ratio Perm         c0.16           v/c Ratio         0.36         0.33         0.24         0.74           Uniform Delay, d1         6.3         6.1         34.6         39.3
Lane Grp Cap (vph)       2473       2403       386       339         v/s Ratio Prot       c0.25       0.23       0.05         v/s Ratio Perm       c0.16         v/c Ratio       0.36       0.33       0.24       0.74         Uniform Delay, d1       6.3       6.1       34.6       39.3
v/s Ratio Prot     c0.25     0.23     0.05       v/s Ratio Perm     c0.16       v/c Ratio     0.36     0.33     0.24     0.74       Uniform Delay, d1     6.3     6.1     34.6     39.3
v/s Ratio Perm c0.16 v/c Ratio 0.36 0.33 0.24 0.74 Uniform Delay, d1 6.3 6.1 34.6 39.3
v/c Ratio 0.36 0.33 0.24 0.74 Uniform Delay, d1 6.3 6.1 34.6 39.3
Uniform Delay, d1 6.3 6.1 34.6 39.3
[27] [27] [27] [27] [27] [27] [27] [27]
Progression Factor 0.05 1.09 1.00 1.00
Incremental Delay, d2 0.2 0.3 0.8 10.8
Delay (s) 0.5 6.9 35.4 50.0
Level of Service A A D D
Approach Delay (s) 0.5 6.9 46.9
Approach LOS
Intersection Summary
HCM Average Control Delay 12.2 HCM Level of Service B
HCM Volume to Capacity ratio 0.45
Actuated Cycle Length (s) 108.0 Sum of lost time (s) 8.0
Intersection Capacity Utilization 42.8% ICU Level of Service A
Analysis Period (min) 15
c Critical Lane Group

	<b></b>	۶	<b>→</b>	•	•	←	*	1	†	/	<b>/</b>	<del> </del>
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		X	ተተ	7	Ì¥,	<b>↑</b> ₽		ሻ	<b>^</b> ^	7	ሻ	<del></del>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes		1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)		1770	3505	1545	1671	3319		1752	3505	1515	1752	3343
Flt Permitted		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)		1770	3505	1545	1671	3319		1752	3505	1515	1752	3343
Volume (vph)	2	129	434	280	77	318	55	188	393	147	37	153
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.87	0.87	0.87	0.76	0.76	0.76	0.82	0.82
Adj. Flow (vph)	. 2	152	511	329	89	366	63	247	517	193	45	187
RTOR Reduction (vph)	0	0	0	67	0	0	0	0	0	38	0	0
Lane Group Flow (vph)	0	154	511	262	89	429	0	247	517	155	45	187
Confl. Peds. (#/hr)				2		*	2			2		
Heavy Vehicles (%)	2%	2%	3%	3%	8%	6%	7%	3%	3%	5%	3%	8%
Turn Type	Prot	Prot		Perm	Prot			Prot		Perm	Prot	
Protected Phases	5	5	2		1	6		3	8	. 0	7	4
Permitted Phases				2				-	·	8	•	•
Actuated Green, G (s)		26.8	50.1	50.1	8.1	31.4		19.6	27.3	27.3	4.5	12.2
Effective Green, g (s)		26.8	51.1	51.1	8.1	32.4		19.6	28.3	28.3	4.5	13.2
Actuated g/C Ratio		0.25	0.47	0.47	0.07	0.30		0.18	0.26	0.26	0.04	0.12
Clearance Time (s)		4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0
Vehicle Extension (s)		1.5	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0
Lane Grp Cap (vph)		439	1658	731	125	996	<u> </u>	318	918	397	73	409
v/s Ratio Prot		0.09	0.15	4.5	c0.05	c0.13		c0.14	0.15	007	0.03	0.06
v/s Ratio Perm				c0.17		. 777		00	0.10	0.10	0.00	0.00
v/c Ratio		0.35	0.31	0.36	0.71	0.43		0.78	0.56	0.39	0.62	0.46
Uniform Delay, d1		33.4	17.5	18.0	48.8	30.4		42.1	34.5	32.8	50.9	44.1
Progression Factor		0.29	0.26	0.08	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.2	0.5	1.3	14.7	1.4		10.4	0.5	0.2	10.4	0.3
Delay (s)		9.9	5.0	2.7	63.5	31.7		52.5	35.0	33.0	61.3	44.4
Level of Service		Α	Á	Α	E	C		D	C	C	01.5 F	D
Approach Delay (s)			5.0		× <sup>∓</sup> .	37.2			39.1		7	52.4
Approach LOS		÷	Α			D			D			D
Intersection Summary						i i						
HCM Average Control De			28.9	Н	ICM Lev	el of Se	rvice		С			
<b>HCM Volume to Capacity</b>			0.53			the season of						
Actuated Cycle Length (s)			108.0	S	um of lo	st time	(s)		12.0			
Intersection Capacity Utiliz	zation	•	30.0%			el of Serv			В			
Analysis Period (min)			15						_			
c Critical Lane Group												



	enn	
	SBR	
Land Configurations	<b>*</b>	
the state of the s	1900	
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	en var skrigter vitter i state i de en en en en en en en en en en en en en
	0.85	
	1.00	and the great of the great state of the control of
TO THE STATE OF TH	1568	
,	1.00	and the professional and the second of the s
	1568	
Volume (vph)	146	
	0.82	
Adj. Flow (vph)	178	
RTOR Reduction (vph)	35	
Lane Group Flow (vph)	143	
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	3%	
	Perm	
Protected Phases		
Permitted Phases	4	
	12.2	
	13.2	
	0.12	
Clearance Time (s)	5.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	192	
v/s Ratio Prot		이 이번 2인 이번과 이 인선 문화가 있다면서 그 어디를 열었다.
	0.09	
	0.74	
	45.8	
	1.00	
	12.8	
	58.5	
Level of Service	,E	and the state of the state of the state of the state of the state of the state of the state of the state of the
Approach Delay (s)		
Approach LOS		
Intersection Summary		

	•	•	<b>†</b>	~	-	<b>↓</b>	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	ሽኘ	<b>آ</b> م	414		ሻሻ	<u></u>	
Ideal Flow (vphpl)	1900		1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.85	0.90		1.00	1.00	
Flt Protected	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1524	3068		3367	1810	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (perm)	3273	1524	3068		3367	1810	
Volume (vph)	303	641	148	343	793	118	
Peak-hour factor, PHF	0.88	0.88	0.74	0.74	0.87	0.87	
Adj. Flow (vph)	344	728	200	464	911	136	
RTOR Reduction (vph)	0	124	0	0	0	0	
Lane Group Flow (vph)	344	604	664	. 0	911	136	
Confl. Peds. (#/hr)				2			
Heavy Vehicles (%)	7%	6%	5%	4%	4%	5%	
Turn Type	(	custom			Prot		
Protected Phases	3	1348	2		1 4	6	
Permitted Phases		3					and the control of th
Actuated Green, G (s)	23.2	66.1	27.7		38.3	62.5	
Effective Green, g (s)	23.8	66.7	29.3		38.9	64.1	
Actuated g/C Ratio	0.23	0.64	0.28		0.37	0.62	
Clearance Time (s)	4.6		5.6			5.6	
Vehicle Extension (s)	2.0	14.	3.5			3.5	
Lane Grp Cap (vph)	749	977	864		1259	1116	
v/s Ratio Prot	0.11	c0.40	c0.22		c0.27	0.08	
v/s Ratio Perm							and the transfer of the control of the second of the control of the second of the seco
v/c Ratio	0.46	0.62	1.04 <b>d</b> r		0.72	0.12	
Uniform Delay, d1	34.6	11.1	34.2		27.9	8.3	
Progression Factor	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.2	4.3		2.2	0.1	
Delay (s)	34.7	12.3	38.5		30.1	8.3	
Level of Service	С	В	D		C	A	artina de la composição de la composição de la composição de la composição de la composição de la composição d La composição de la compo
Approach Delay (s)	19.5		38.5			27.3	
Approach LOS	В		D			С	ra de la composition de la composition de la composition de la composition de la composition de la composition La composition de la
Intersection Summary							
HCM Average Control De		-	27.0	Н	CM Lev	el of Se	ervice C
<b>HCM Volume to Capacity</b>			0.70		44 55		(1987) (1987) (A. 1987) (A. 1987) (A. 1987)
Actuated Cycle Length (s			104.0	S	um of ic	st time	e (s) 8.0
Intersection Capacity Utili	ization		62.2%			l of Ser	
Analysis Period (min)			15				
dr Defacto Right Lane.	Reco	de with 1	l though	lane as	a right	lane.	The second of th
c Critical Lane Group					-		

c Critical Lane Group

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Movement	EBL	EBR	NBL	NBT	SBT	SBR	SBR2	SEL	SER	
Lane Configurations	<b>ካ</b> ነላ		ካ	44	<b>^</b>					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0		4.0	4.0	4.0					
Lane Util. Factor	0.97		1.00	0.95	0.95					
Frt	1.00		1.00	1.00	0.92					•
FIt Protected	0.95		0.95	1.00	1.00					
Satd. Flow (prot)	3368		1719	3406	3139					
Flt Permitted	0.95		0.95	1.00	1.00					
Satd. Flow (perm)	3368		1719	3406	3139					
Volume (vph)	250	7	220	478	240	0	270	0	0	
Peak-hour factor, PHF	0.86	0.86	0.71	0.71	0.79	0.79	0.79	0.92	0.92	
Adj. Flow (vph)	291	8	310	673	304	0	342	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	299	0	310	673	646	0	0	0	0	
Heavy Vehicles (%)	4%	2%	5%	6%	8%	2%	4%	2%	2%	
Turn Type			Prot							
Protected Phases	4		5	2	6					
Permitted Phases				a Rusiy						
Actuated Green, G (s)	17.4		16.8	44.0	23.9					
Effective Green, g (s)	17.6	* * 16	16.5	45.3	24.8					
Actuated g/C Ratio	0.25		0.23	0.64	0.35					
Clearance Time (s)	4.2		3.7	5.3	4.9					
Vehicle Extension (s)	8.0		2.0	4.9	5.7					
Lane Grp Cap (vph)	836		400	2176	1098			100		
v/s Ratio Prot	c0.09		c0.18	0.20	c0.21					
v/s Ratio Perm						Destruction 1				
v/c Ratio	0.36		0.78	0.31	0.59					
Uniform Delay, d1	22.0		25.5	5.8	18.9					
Progression Factor	1.00		1.00	1.00	1.00					
Incremental Delay, d2	1.1	er en en er Fan en en er	8.3	0.2	1.5					
Delay (s)	23.1		33.8	5.9	20.3					
Level of Service	С		C	Α	С					
Approach Delay (s)	23.1			14.7	20.3			0.0		
Approach LOS	С			В	С			Α	day i	
Intersection Summary										
HCM Average Control D			17.9		ICM Lev				В	
HCM Volume to Capacit			0.57			n gert vere dit i			ue per por die i	
Actuated Cycle Length (			70.9		Sum of le	ost time	(s)		12.0	
Intersection Capacity Uti			44.9%		CU Leve				Α	na kanana na kata sa kata sa Mara Manaya ya kata sa ka Manaya kata sa
Analysis Period (min)		4.5	15							
c Critical Lane Group										

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Movement	EBL		EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations	Ŋ			*5	<b>†</b> }			À	ተተ	7	ሻ	<b>↑</b> ↑
Ideal Flow (vphpl)	1900		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00			1.00	0.95	40.00		1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes Flpb, ped/bikes	1.00 1.00			1.00	1.00			1.00	1.00	0.98	1.00	1.00
Frt	1.00	0.98		1.00 1.00	1.00			1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1,00		0.95	0.99			1.00	1.00	0.85	1.00	0.98
Satd. Flow (prot)	1752	3370		1671	3179			0.95	1.00	1.00	0.95	1.00
Flt Permitted	0.95	1.00		0.95	1.00			1770 0.95	3539	1559	1770	3355
Satd. Flow (perm)	1752	3370		1671	3179			1770	1.00 3539	1.00 1559	0.95	1.00
Volume (vph)	75	347	50	121	244	19	10	71	703		1770	3355
Peak-hour factor, PHF	0.84	0.84	0.84	0.78	0.78	0.78	0.75	0.75	0.75	196 0.75	23	249
Adj. Flow (vph)	89	413	60	155	313	24	13	95	937	261	0.77	0.77
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	53	0	323 0
Lane Group Flow (vph)	89	473	0	155	337	0	0	108	937	208	30	363
Confl. Peds. (#/hr)			3			4	٠,٣	.00	007	200	30	303
Heavy Vehicles (%)	3%	5%	4%	8%	13%	2%	2%	2%	2%	2%	2%	6%
Turn Type	Prot			Prot	· · · · · · · · · · · · · · · · · · ·	······································	Prot	Prot		Perm	Prot	
Protected Phases	7	4		, <b>3</b> .	· 8		5	5	2	. 0	1 101	6
Permitted Phases						**		. •	7 7	2		U
Actuated Green, G (s)	6.7	15.2		9.0	17.5			9.6	39.1	39.1	2.5	32.0
Effective Green, g (s)	6.2	15.6		8.5	17.9			9.1	39.9	39.9	2.0	32.8
Actuated g/C Ratio	0.08	0.19		0.10	0.22			0.11	0.49	0.49	0.02	0.40
Clearance Time (s)	3.5	4.4		3.5	4.4			3.5	4.8	4.8	3.5	4.8
Vehicle Extension (s)	1.0	1.5		1.0	1.5			1.0	1.5	1.5	1.0	1.5
Lane Grp Cap (vph)	132	641		173	694			196	1722	759	43	1342
v/s Ratio Prot	0.05	c0.14		c0.09	0.11			0.06	c0.26		c0.02	0.11
v/s Ratio Perm										0.13	2014 A	
v/c Ratio	0.67	0.74		0.90	0.49			0.55	0.54	0.27	0.70	0.27
Uniform Delay, d1	36.9	31.3		36.3	28.0			34.5	14.7	12.5	39.7	16.6
Progression Factor	1.00	1.00		0.60	0.49			0.74	0.63	0.46	1.00	1.00
Incremental Delay, d2	10.2	3.8		35.2	0.2			1.7	1.1	8.0	32.8	0.5
Delay (s)	47.1	35.1		56.9	14.0			27.2	10.4	6.6	72.5	17.0
Level of Service	D	D		E	В			С	В	Α	E	В
Approach LOS		37.0		in a second	27.5				11.0			21.3
Approach LOS		D			С				В			С
Intersection Summary												
<b>HCM Average Control De</b>	,		20.7	H	CM Lev	el of Ser	vice		С			
<b>HCM Volume to Capacity</b>			0.64			e de Santa						
Actuated Cycle Length (s)			82.0	Su	ım of lo	st time (	s)		16.0			
Intersection Capacity Utili	zation	5	4.6%			of Serv			A			
Analysis Period (min)			15									
c Critical Lane Group		1.3										



Movement SBR
Lans Configurations
Ideal Flow (vphpl) 1900
Total Lost time (s)
Lane Util. Factor
Frpb, ped/bikes
Flpb, ped/bikes
<mark>Frt</mark> =tr = - Albert Albert (from the common of the common of the common of the common of the common of the figure and the
Flt Protected
Satd. Flow (prot)
Fit Permitted
Satd. Flow (perm)
Volume (vph) 31 Peak-hour factor. PHF 0.77
Adj. Flow (vph) 40 RTOR Reduction (vph) 0
Lane Group Flow (vph) 0
Confl. Peds. (#/hr) 2
Heavy Vehicles (%) 3%
Turn Type
Protected Phases
Permitted Phases
Actuated Green, G (s)
Effective Green, g (s)
Actuated g/C Ratio
Clearance Time (s)
Vehicle Extension (s)
Lane Grp Cap (vph)
v/s Ratio Prot
v/s Ratio Perm
v/c Ratio
Uniform Delay, d1
Progression Factor
Incremental Delay, d2
Delay (s) The first the control of t
Level of Service
Approach Delay (s)
Approach LOS
Intersection Summary
Intersection Summary

	٠	<b>→</b>	*	*	4	1	₹î	1	†	~	<b>/</b>	+
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations					4	7		Ä	ተተ			44
Ideal Flow (vphpi)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0	4.0			4.0
Lane Util. Factor					1.00	1.00		1.00	0.95			0.95
Frpb, ped/bikes					1.00	0.99		1.00	1.00			0.99
Flpb, ped/bikes Frt					1.00	1.00		1.00	1.00			1.00
Fit Protected					1.00 0.98	0.85 1.00		1.00	1.00			0.95
Satd. Flow (prot)					1776	1560		0.95 1770	1.00 3539			1.00
Flt Permitted					0.98	1.00		0.45	1.00			3265
Satd. Flow (perm)					1776	1560		836	3539			1.00 3265
Volume (vph)	0	0	0	100	107	90	2	94	890	0	0	298
Peak-hour factor, PHF	0.92	0.92	0.92	0.80	0.80	0.80	0.75	0.75	0.75	0.75	0.79	0.79
Adj. Flow (vph)	0	0	0	125	134	112	3	125	1187	0.70	0.75	377
RTOR Reduction (vph)	0	0	0	0	0	93	0	0	0	0	0	21
Lane Group Flow (vph)	0	0	0	0	259	19	0	128	1187	0	0	523
Confl. Peds. (#/hr)						2						
Heavy Vehicles (%)	2%	2%	2%	5%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type				Perm		Perm	Prot	Prot				
Protected Phases					8		5	5 7	172			6
Permitted Phases				8	ممد	8						
Actuated Green, G (s) Effective Green, g (s)					13.6	13.6		35.0	58.2			14.1
Actuated g/C Ratio					14.2 0.17	14.2 0.17		36.8	59.8			15.0
Clearance Time (s)					4.6	4.6		0.45	0.73			0.18
Vehicle Extension (s)					3.0	3.0						4.9
Lane Grp Cap (vph)					308	270		605	2581			4.0 597
v/s Ratio Prot			* .		000	2,0		0.05	c0.34			c0.16
v/s Ratio Perm					0.15	0.01		0.04	00.04	· vi		CO. 10
v/c Ratio		- 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			0.84	0.07	1 1	0.21	0.46		1	0.88
Uniform Delay, d1					32.8	28.4		13.4	4.5			32.6
Progression Factor					0.43	0.32		0.43	0.20			1.11
Incremental Delay, d2					16.0	0.1	**	0.0	0.0			14.6
Delay (s)					30.1	9.1		5.8	0.9			50.7
Level of Service					С	Α		Α	Α			D
Approach Delay (s)		0.0			23.8				1.4			50.7
Approach LOS		Α			С				Α			D
Intersection Summary												
HCM Average Control De	-		17.1	Н	CM Lev	el of Se	rvice		В			
HCM Volume to Capacity			0.61									
Actuated Cycle Length (s)			82.0			st time (			8.0			
Intersection Capacity Utilia	zation	5	2.1%	IC	U Leve	of Serv	rice		Α			
Analysis Period (min) c Critical Lane Group			15									
C Childai Lane Group									100			



Movement SBR	
Lans Configurations	
Ideal Flow (vphpl) 1900	
Total Lost time (s)	
Lane Util, Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Fit Protected	
Satd. Flow (prot)	
FIt Permitted	
Satd. Flow (perm)	
Volume (vph) 132	
Peak-hour factor, PHF 0.79	
Adj. Flow (vph) 167	
RTOR Reduction (vph) 0	
Lane Group Flow (vph) 0	
Confl. Peds. (#/hr) 3	
Heavy Vehicles (%) 6%	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s) Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	National design
v/s Ratio Perm	
v/c Ratio ( )	
Uniform Delay, d1	
Progression Factor	y a sakara
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	
HICOGOUGH JUNITRALY	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĵ.,					.,,,,,	<b>↑</b> ↑	11011	A A	<u> </u>	ODIT
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0		4.0	4.0	1000
Lane Util. Factor	1.00	1.00		14.5				0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Frt	1.00	0.96						0.98		1.00	1.00	
Flt Protected	0.95	1.00	Section 1					1.00		0.95	1.00	
Satd. Flow (prot)	1770	1736						3443		1770	3438	
Fit Permitted	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (perm)	1770	1736		<u> </u>				3443		1770	3438	
Volume (vph)	205	156	49	0	0	0	0	781	128	69	331	0
Peak-hour factor, PHF	0.74 277	0.74	0.74	0.92	0.92	0.92	0.75	0.75	0.75	0.88	0.88	0.88
Adj. Flow (vph) RTOR Reduction (vph)	0	211	66	. 0	0	0	0	1041	171	78	376	0
Lane Group Flow (vph)	277	277	0	O	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	211	211	0 2	0	0	0	0	1212	0	78	376	0
Heavy Vehicles (%)	2%	4%	9%	2%	2%	2%	2%	2%	2 50/	00/	ĖO	00/
Turn Type	Perm	7/0		2/0	2/6	2 /0	2 /0	270	5%	2%	5%	2%
Protected Phases	i Ciiii	7								Prot	F 0.0	
Permitted Phases	7							. 2		18	568	
Actuated Green, G (s)	15.0	15.0						27.8		24.5	57.2	
Effective Green, g (s)	16.6	16.6					* * * * * * * * * * * * * * * * * * *	28.7		24.7	57.2 57.4	
Actuated g/C Ratio	0.20	0.20						0.35		0.30	0.70	
Clearance Time (s)	5.6	5.6						4.9		0.50	0.70	
Vehicle Extension (s)	3.0	3.0						4.0				
Lane Grp Cap (vph)	358	351		· · · · · · · · · · · · · · · · · · ·				1205		533	2407	
v/s Ratio Prot		c0.16						c0.35		0.04		
v/s Ratio Perm	0.16							erereta Per	5 1 Aug		00,11	
v/c Ratio	0.77	0.79						1.01	e da esta de la composición della composición de	0.15	0.16	
Uniform Delay, d1	30.9	31.0						26.6	. !	20.9	4.1	
Progression Factor	1.00	1.00		= 1				1.00		1.66	0.04	
Incremental Delay, d2	10.0	11.2						27.3		0.0	0.0	
Delay (s)	40.9	42.2						54.0		34.9	0.2	
Level of Service	D	D						D		C	A	
Approach Delay (s)		41.6			0.0			54.0			6.1	
Approach LOS		D			Α			D			Α	
Intersection Summary												
HCM Average Control De			41.1	Н	CM Lev	el of Se	rvice		D			
HCM Volume to Capacity			0.66								114	
Actuated Cycle Length (s			82.0			st time			12.0		* •	
Intersection Capacity Util	lization	garaga d	52.1%	lC IC	U Leve	l of Sen	vice		Α			
Analysis Period (min)			15									
c Critical Lane Group								,				

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBA	SBL	SBT
Lane Configurations	ኻ	<b>^</b>	7	¥	<b>↑</b> ↑			Ä	<b>ት</b> ኩ		Ä	<u>ተ</u> ተጉ
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	0.95		1.00	0.91
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00 0.95	1.00	0.85 1.00	1.00 0.95	0.98			1.00 0.95	0.99 1.00		1.00 0.95	0.96 1.00
Fit Protected	1752	3438	1488	1770	3133			1770	3468		1656	4654
Satd. Flow (prot) Flt Permitted	0.95	1.00	1.00	0.95	1.00	4		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	3438	1488	1770	3133		1.00	1770	3468		1656	4654
Volume (vph)	176	300	61	47	243	28	22	53	591	64	23	227
Peak-hour factor, PHF	0.81	0.81	0.81	0.82	0.82	0.82	0.71	0.71	0.71	0.71	0.89	0.89
Adj. Flow (vph)	217	370	75	57	296	34	31	75	832	90	26	255
RTOR Reduction (vph)	0	0	56	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	217	370	19	57	330	0	0	106	922	0	26	353
Confl. Peds. (#/hr)			2			2				5		
Heavy Vehicles (%)	3%	5%	7%	2%	14%	7%	2%	2%	2%	6%	9%	8%
Turn Type	Prot		Perm	Prot			Prot	Prot			Prot	
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases			4									
Actuated Green, G (s)	12.6	20.8	20.8	4.4	12.6			8.3	38.4		2,6	32.7
Effective Green, g (s)	12.1	21.2	21.2	3.9	13.0			7.8	38.8		2.1	33.1
Actuated g/C Ratio	0.15	0.26	0.26	0.05	0.16		1000	0.10	0.47		0.03	0.40
Clearance Time (s)	3.5	4.4	4.4	3.5	4.4			3.5	4.4		3.5	4.4
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0	<u> </u>		1.0	2.0		. 1.0	2.0
Lane Grp Cap (vph)	259	889	385	84	497			168	1641		42	1879
v/s Ratio Prot	c0.12	0.11	0.01	0.03	c0.11			0.06	c0.27		c0.02	0.08
v/s Ratio Perm	0.04	0.42	0.01 0.05	0.60	0.66			0.63	0.56		0.60	0.40
v/c Ratio Uniform Delay, d1	0.84 34.0	25.3	22.8	0.68 38.4	32.4	*		0.63 35.7	15.5		0.62 39.6	0.19 15.8
Progression Factor	0.51	0.46	0.21	1.00	1.00			0.96	0.86		1.00	1.00
Incremental Delay, d2	16.9	0.40	0.0	15.7	2.6			5.2	1.3		17.6	0.2
Delay (s)	34.3	11.7	4.8	54.2	35.0	· * · · · · · ·		39.5	14.7		57.1	16.0
Level of Service	C	В	A	D	D			D	В		E	В
Approach Delay (s)		18.4	n selim	an Te	37.9	dina da la			17.2		48,50	18.8
Approach LOS		В			D		." - '		В			В
Intersection Summary												
HCM Average Control D			21.0	H	ICM Lev	el of Se	ervice		С			
<b>HCM Volume to Capacit</b>	y ratio		0.63							No. of the		
Actuated Cycle Length (			82.0			ost time			16.0			
Intersection Capacity Ut	ilization	41.4	54.7%	IC	CU Leve	el of Ser	vice		Α			
Analysis Period (min)			15		ear to a							
c Critical Lane Group						100						



Movement	SBR	
L <b>种</b> 体 Configurations		
Ideal Flow (vphpl)		
Total Lost time (s)		
Lane Util. Factor		
Frpb, ped/bikes		
Flpb, ped/bikes Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Volume (vph)	87	
Peak-hour factor, PHF	0.89	
Adj. Flow (vph)	<u> </u>	
RTOR Reduction (vph)		
Lane Group Flow (vph)		
Confl. Peds. (#/hr)	3	
Heavy Vehicles (%)	2%	
Turn Type		
Protected Phases Permitted Phases		
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s) Level of Service		
Approach Delay (s)		
Approach LOS		
Intersection Summary		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations					414			ă	↑↑			<u> </u>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0	4.0			4.0
Lane Util. Factor					0.95			1.00	0.95			0.95
Frpb, ped/bikes					0.99			1.00	1.00			1.00
Flpb, ped/bikes					1.00			1.00	1.00			1.00
Frt					0.93			1.00	1.00			1.00
Flt Protected					0.99			0.95	1.00			1.00
Satd. Flow (prot)					3213			1753 0.95	3505 1.00			3343 1.00
Fit Permitted					0.99 3213		4 *	1753	3505			3343
Satd. Flow (perm)			0	87	181	206	1	59	524	0	0	300
Volume (vph)	0 0.92	0 0.92	0.92	0.86	0.86	0.86	0.72	0.72	0.72	0.72	0.84	0.84
Peak-hour factor, PHF	0.92	0.92	0.92	101	210	240	1	82	728	0.72	0.64	357
Adj. Flow (vph) RTOR Reduction (vph)	0	0	0	0	0	240	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	551	ő	Ö	83	728	0	Ö	357
Confl. Peds. (#/hr)					001	2		00	, 20	Ÿ	•	
Heavy Vehicles (%)	2%	2%	2%	3%	4%	3%	2%	3%	3%	2%	2%	8%
Turn Type			<u> </u>	Perm			Prot	Prot			· · · · · · · · · · · · · · · · · · ·	
Protected Phases					3		4 5	4 5	124			6
Permitted Phases				3								
Actuated Green, G (s)					15.9	1.74		27.1	57.8			20.5
Effective Green, g (s)					16.5			28.1	57.5			21.4
Actuated g/C Ratio					0.20			0.34	0.70			0.26
Clearance Time (s)					4.6							4.9
Vehicle Extension (s)				19 J.	3.0			او آدو د محد		N.		4.0
Lane Grp Cap (vph)					647			601	2458			872
v/s Ratio Prot								0.05	c0.21			c0.11
v/s Ratio Perm					0.17							
v/c Ratio					0.85			0.14	0.30			0.41
Uniform Delay, d1					31.6			18.6	4.6			25.1
Progression Factor					1.00			1.20	0.01			0.68
Incremental Delay, d2					10.5			0.1	0.0			1.4
Delay (s)					42.1			22.4	0.0			18.4
Level of Service		0.0			D	71.6		С	A			В
Approach Delay (s)		0.0			42.1				2.3			16.7
Approach LOS		Α			D				Α			В
Intersection Summary												
HCM Average Control Do			18.0	H	HCM Le	vel of Se	ervice		В			
HCM Volume to Capacity			0.46									
Actuated Cycle Length (s			82.0		Sum of I				12.0			
Intersection Capacity Uti	lization		48.3%	!	CU Lev	el of Se	vice		Α			
Analysis Period (min)			15									
c Critical Lane Group								100				



Movement	SBR	
Land Configurations	<u>امود</u> آم	
Ideal Flow (vphpl)	1900	
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.98	
Flpb, ped/bikes	1.00	
Frt	0.85	
Fit Protected	1.00	
Satd. Flow (prot)	1544	
Flt Permitted	1.00	
Satd. Flow (perm)	1544	
Volume (vph)	57	
Peak-hour factor, PHF	0.84	
Adj. Flow (vph)	68	
RTOR Reduction (vph)	50	
Lane Group Flow (vph)	18	
Confl. Peds. (#/hr)	10	
Heavy Vehicles (%)	2%	
Turn Type	Perm	
Protected Phases		
Permitted Phases	6	
Actuated Green, G (s)	20.5	
Effective Green, g (s)	21.4	
Actuated g/C Ratio	0.26	
Clearance Time (s)	4.9	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	403	
v/s Ratio Prot		and the second of the second o
v/s Ratio Perm	0.01	
v/c Ratio	0.04	
Uniform Delay, d1	22.7	
Progression Factor	0.32	
Incremental Delay, d2	0.2	
Delay (s) Level of Service	7.4 A	and the control of th
Approach Delay (s)		
Approach LOS		
	bodining a sugar	
Intersection Summary		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		41	ř					<b>十</b> 个	7		Ä	个个
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0					4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00					0.95	1.00		1.00	0.95
Frpb, ped/bikes		1.00	0.99					1.00	0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00					1.00	1.00		1.00	1.00
Frt		1.00	0.85					1.00	0.85		1.00	1.00
FIt Protected		0.98	1.00				:5	1.00	1.00		0.95	1.00
Satd. Flow (prot)		1815	1560					3539	1501		1704	3438
Flt Permitted		0.98	1.00				477.11	1.00	1.00		0.95	1.00
Satd. Flow (perm)		1815	1560					3539	1501		1704	3438
Volume (vph)	94	193	66	0	0	0	0	488	156	2	126	260
Peak-hour factor, PHF	0.78	0.78	0.78	0.92	0.92	0.92	0.70	0.70	0.70	0.91	0.91	0.91
Adj. Flow (vph)	121	247	85	0	0	0	0	697	223	2	138	286
RTOR Reduction (vph)	0	0	68	Ö	0	0	0	0	45	0	0	0
Lane Group Flow (vph)	0	368	17	. 0	0	0	0	697	178	0	140	286
Confl. Peds. (#/hr)			2					* * * *	2			
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%	2%	2%	5%	2%	6%	5%
Turn Type	Perm		Perm		<u></u>				Perm	Prot	Prot	
Protected Phases		4						2		13	13	356
Permitted Phases	4	, • .	4					<del>-</del>	2		. • •.	
Actuated Green, G (s)	• •	16.0	16.0			$\mathcal{D}_{i} \to \mathcal{D}_{i} = \frac{1}{2}$		23.2	23.2		28.7	56.8
Effective Green, g (s)		16.6	16.6					24.1	24.1		29.3	57.4
Actuated g/C Ratio		0.20	0.20					0.29	0.29		0.36	0.70
Clearance Time (s)		4.6	4.6					4.9	4.9			
Vehicle Extension (s)		3.0	3.0				1 12	4.0	4.0			
Lane Grp Cap (vph)		367	316					1040	441		609	2407
v/s Ratio Prot								c0.20			c0.08	c0.08
v/s Ratio Perm		0.20	0.01						0.12		*****	
v/c Ratio		1.00	0.05					0.67	0.40		0.23	0.12
Uniform Delay, d1		32.7	26.4					25.5	23.2		18.5	4.0
Progression Factor		0.66	0.47					1.00	1.00		0.96	0.48
Incremental Delay, d2		37.9	0.0					3.4	2.7		0.1	0.0
Delay (s)		59.5	12.4					28.9	25.9		17.7	2.0
Level of Service		E	В					C	C		В	A
Approach Delay (s)	3.00	50.7	. <del>-</del>		0.0			28.2				7.1
Approach LOS	1.1 1 42	D			Α			С				Α
Intersection Summary												
HCM Average Control D	elav		28.9	F	ICM Lev	vel of Se	ervice		С			
HCM Volume to Capacit			0.56				<del></del>					
Actuated Cycle Length (			82.0	S	um of le	ost time	(s)		12.0			
Intersection Capacity Ut			48.3%			el of Ser			Α.			
Analysis Period (min)			15	,	• • •							
c Critical Lane Group	Zaro Tok						100		10 mg			
a farmani mari a in a diki												



Laḥ Configurations Ideal Flow (vphpl) 1900 Total Lost time (s) Lane Util. Factor Frpb, ped/bikes Fibb, ped/bikes Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confi. Peds. (#hr) Heavy Vehicles (%) 2% Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach Delay (s) Intersection Summary	Movement	SBA
Total Lost time (s) Lane Util. Factor Frpb, ped/bikes Flpb, ped/bikes Frt Frt Protected Satd. Flow (prot) Flt Premitted Satd. Flow (perm)  Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peak. (#/hr) Heavy Vehicles (%) 2% Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Prot v/s Ratio Prot v/s Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS	Land Configurations	
Lane Util. Factor Frpb, ped/bikes Fipb, ped/bikes Frt Filt Protected Satd. Flow (prot) Filt Permitted Satd. Flow (perm) Volume (vph) Volume (vph) OPeak-hour factor, PHF Adj. Flow (vph) OTROR Reduction (vph) Lane Group Flow (vph) Confl. Peds. (#/hr) Heavy Vehicles (%) Purn Type Protected Phases Permitted Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated gr C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Port v/s Ratio Port v/s Ratio Porm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach Delay (s) Approach LOS	Ideal Flow (vphpl)	1900
Frpb, ped/bikes Fipb, ped/bikes Firt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm)  Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2%  Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) V/s Ratio Prot V/s Ratio Prot V/s Ratio Perm V/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS	Total Lost time (s)	
Fipb, ped/bikes Frt Frt Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm)  Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 Lane Group Flow (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2%  Turn Type Protected Phases Permitted Phases Permitted Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LoS		
Frit Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS		tan kanang menganggan penganggan penganggan penganggan penganggan penganggan penganggan penganggan penganggan Penganggan
Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm)  Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 Enr Protected Protected (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2%  Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS		
Satd. Flow (prot) FIR Permitted Satd. Flow (perm) Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS		
Fit Permitted Satd. Flow (perm)  Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2%  Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Port v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS	and the state of t	
Satd. Flow (perm)  Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2%  Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Prot v/s Ratio Prot v/s Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS		
Volume (vph) 0 Peak-hour factor, PHF 0.91 Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Prot v/s Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS		
Peak-hour factor, PHF 0.91 Adj, Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS		0
Adj. Flow (vph) 0 RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS		
RTOR Reduction (vph) 0 Lane Group Flow (vph) 0 Confl. Peds. (#/hr) Heavy Vehicles (%) 2%  Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LOS		
Lane Group Flow (vph) Confl. Peds. (#/hr) Heavy Vehicles (%) Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LoS		
Confl. Peds. (#/hr) Heavy Vehicles (%) 2%  Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach LoS		
Heavy Vehicles (%) 2%  Turn Type Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		
Protected Phases Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS	Heavy Vehicles (%)	
Permitted Phases Actuated Green, G (s) Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		
Actuated Green, G (s)  Effective Green, g (s)  Actuated g/C Ratio  Clearance Time (s)  Vehicle Extension (s)  Lane Grp Cap (vph)  v/s Ratio Prot  v/s Ratio Perm  v/c Ratio  Uniform Delay, d1  Progression Factor  Incremental Delay, d2  Delay (s)  Level of Service  Approach Delay (s)  Approach LOS		
Effective Green, g (s) Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s)  Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		
Actuated g/C Ratio Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		
Clearance Time (s)  Vehicle Extension (s)  Lane Grp Cap (vph)  v/s Ratio Prot  v/s Ratio Perm  v/c Ratio  Uniform Delay, d1  Progression Factor Incremental Delay, d2  Delay (s)  Level of Service  Approach Delay (s)  Approach LOS		
Vehicle Extension (s)  Lane Grp Cap (vph)  v/s Ratio Prot  v/s Ratio Perm  v/c Ratio  Uniform Delay, d1  Progression Factor  Incremental Delay, d2  Delay (s)  Level of Service  Approach Delay (s)  Approach LOS		
Lane Grp Cap (vph)  v/s Ratio Prot  v/s Ratio Perm  v/c Ratio  Uniform Delay, d1  Progression Factor Incremental Delay, d2  Delay (s)  Level of Service  Approach Delay (s)  Approach LOS	` '	
v/s Ratio Prot v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		
v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS	and the control of th	
Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		
Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		사진 시작들에 되어보여 한참. 그리고 그러지 하는 이 모양된 그는 한 11년 [17]
Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS		
Delay (s) Level of Service Approach Delay (s) Approach LOS		
Level of Service Approach Delay (s) Approach LOS		
Approach Delay (s) Approach LOS		and the contract of the first of the contract
Approach LOS		en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de
Intersection Summary		
	Intersection Summary	

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Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		) Li	<b>^</b>	7		Ä	个个	7		Ž	ተተጐ	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	0.91	
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	0.97		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.98	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)		1736	3471	1371		1658	3312	1468		1712	4828	
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	
Satd. Flow (perm)		1736	3471	1371		1658	3312	1468		1712	4828	
Volume (vph)	1	101	110	70	6	270	218	287	13	78	1260	148
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.88	0.88	0.88	0.88	0.78	0.78	0.78	0.78
Adj. Flow (vph)	1	117	128	81	7.	307	248	326	17	100	1615	190
RTOR Reduction (vph)	0	0	0	70	0	0	0	65	0	0	14	0
Lane Group Flow (vph)	0	118	128	11	0	314	248	261	0	117	1791	0
Confl. Peds. (#/hr)				2				11	* 5			2
Heavy Vehicles (%)	2%	4%	4%	16%	2%	9%	9%	7%	2%	6%	4%	19%
Turn Type	Prot	Prot		Perm	Prot	Prot		Perm	Prot	Prot		
Protected Phases	7	7	4		3	3	8		5	5	2	
Permitted Phases				4				8				
Actuated Green, G (s)		8.8	11.8	11.8		20.9	23.9	23.9		8.8	31.9	
Effective Green, g (s)		8.5	12.7	12.7		20.6	24.8	24.8		8.5	32.8	
Actuated g/C Ratio		0.09	0.14	0.14		0.23	0.28	0.28		0.09	0.36	
Clearance Time (s)		3.7	4.9	4.9		3.7	4.9	4.9		3.7	4.9	
Vehicle Extension (s)		2.0	5.4	5.4	<u> </u>	2.0	5.3	5.3		2.0	4.5	
Lane Grp Cap (vph)		164	490	194		380	914	405		162	1761	
v/s Ratio Prot		0.07	0.04	Mine Mariana Jan		c0.19	0.07		190	c0.07	c0.37	
v/s Ratio Perm				0.01				c0.18				
v/c Ratio		0.72	0.26	0.06		0.83	0.27	0.64		0.72	1.02	
Uniform Delay, d1		39.5	34.4	33.4		32.9	25.5	28.7		39.6	28.6	
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		11.8	0.7	0.3		13.1	0.4	5.0		12.6	25.8	
Delay (s)		51.4	35.1	33.7		46.0	25.8	33.7		52.1	54.4	
Level of Service		D	D	С		D	C	С		D	D	
Approach Delay (s)			40.6				35.9				54.2	
Approach LOS			D				D				D	
Intersection Summary												
HCM Average Control De	lay		42.1	Н	CM Lev	el of Se	rvice		D			
<b>HCM Volume to Capacity</b>			0.81									
Actuated Cycle Length (s)			89.9	S	um of lo	st time	(s)		8.0			
Intersection Capacity Utiliz			70.5%			l of Ser			С			
Analysis Period (min)			15									
c Critical Lane Group												

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Movement	SBU	SBL	SBT	SBR											
Lane Configurations	4000	Ä	<b>^^</b>												
Ideal Flow (vphpl)	1900	1900	1900	1900											
Total Lost time (s)		4.0	4.0												
Lane Util. Factor		1.00	0.91				*.								
Frpb, ped/bikes		1.00	1.00												
Flpb, ped/bikes Frt		1.00	1.00					·							
Fit Protected		1.00 0.95	0.99												
Satd. Flow (prot)			1.00												
Flt Permitted		1718 0.95	4707												
Satd. Flow (perm)		1718	4707								1				
Volume (vph)	21	69	874										 		
Peak-hour factor, PHF	0.90	0.90		55											
Adj. Flow (vph)	23	0.90 77	0.90 971	0.90 61											
RTOR Reduction (vph)	0	0	9/1	0											
Lane Group Flow (vph)	. 0		1032	0											
Confl. Peds. (#/hr)	U	100	1032	2								*			
Heavy Vehicles (%)	2%	6%	9%	11%											
Turn Type	Prot	Prot	- 0 70	1170	· · · · · ·				<u></u>			···	 	· · · · · · · · · · · · · · · · · · ·	
Protected Phases	1	1	6	100											
Permitted Phases	•														
Actuated Green, G (s)		8.1	31.2												
Effective Green, g (s)		7.8	32.1												
Actuated g/C Ratio		0.09	0.36												
Clearance Time (s)		3.7	4.9												
Vehicle Extension (s)		2.0	5.2	4 1 1				1							
Lane Grp Cap (vph)	-	149	1681		· · · · · · · · · · · · · · · · · · ·		<del></del>		· · · · ·	<u> </u>			 · · · · · · · · · · · · · · · · · · ·	<u></u>	
v/s Ratio Prot		0.06	0.22												
v/s Ratio Perm															
v/c Ratio		0.67	0.61								- 4				
Uniform Delay, d1		39.8	23.8			* 1	,				. 1. 5				
Progression Factor		1.00	1.00						- 191				100		
Incremental Delay, d2	•	9.0	1.0												
Delay (s)		48.8	24.8												
Level of Service		D	С												
Approach Delay (s)			26.9												
Approach LOS			С												
Intersection Summary										ı					

	۶	<b>→</b>	7	<b>/</b>	•	4	4	<b>†</b>	~	<b>&gt;</b>	ļ	لِر
Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	<b>"</b>	<b>^</b>	7	ሻ	<b>↑</b> ↑		F <sub>5</sub>	1₃			₩	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	44.42	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.97			0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1623	3252	1263	1766	3244		1671	1718			1581	
Flt Permitted	0.51	1.00	1.00	0.59	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	870	3252	1263	1105	3244		1671	1718			1581	
Volume (vph)	18	236	87	77	289	8	468	34	7	2	0	32
Peak-hour factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	19	254	94	88	328	9	532	39	8	3	0	42
RTOR Reduction (vph)	0	0	69	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	19	254	25	88	337	0	532	47	0	. 0	96	0
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		
Heavy Vehicles (%)	11%	11%	25%	2%	11%	2%	8%	6%	15%	2%	2%	3%
Turn Type	Perm		Perm	Perm			Split			Split		
Protected Phases		2			6		8	8		7	7	
Permitted Phases	2		2	6								
Actuated Green, G (s)	15.6	15.6	15.6	15.6	15.6		28.7	28.7			7.0	
Effective Green, g (s)	17.5	17.5	17.5	17.5	17.5		28.9	28.9			7.2	
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27		0.44	0.44			0.11	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		4.2	4.2			4.2	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			2.0	1.1.
Lane Grp Cap (vph)	232	868	337	295	865		736	757			174	
v/s Ratio Prot		0.08			c0.10		c0.32	0.03	Tarakan Marin		c0.06	
v/s Ratio Perm	0.02	·	0.02	0.08								
v/c Ratio	0.08	0.29	0.07	0.30	0.39		0.72	0.06			0.55	
Uniform Delay, d1	18.0	19.1	18.0	19.2	19.7		15.1	10.6			27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.2	0.3	0.1	0.8	0.4		3.8	0.0			2.1	
Delay (s)	18.2	19.4	18.1	19.9	20.1		18.8	10.6			29.8	
Level of Service	В	В	В	В	С		В	В			C	
Approach Delay (s)		19.0			20.0			18.2			29.8	
Approach LOS		В			С			В			С	
Intersection Summary												
HCM Average Control D	elay		19.7	ŀ	dCM Leν	el of Se	rvice		В			
HCM Volume to Capacity			0.59									
Actuated Cycle Length (s			65.6	9	Sum of lo	st time	(s)		12.0			
Intersection Capacity Uti			63.2%		CU Leve				В			
Analysis Period (min)			15									
c Critical Lane Group												



			00.000 W 00.000 (	******					
Movement	SBR2								
Lane Configurations	1000	,							
Ideal Flow (vphpl) Total Lost time (s)	1900								
Lane Util. Factor									
Frpb, ped/bikes									
Flpb, ped/bikes									
Frt		*							
Flt Protected									
Satd. Flow (prot)									
Flt Permitted				£* .					
Satd. Flow (perm)									
Volume (vph)	39								***************************************
Peak-hour factor, PHF	0.76			. "					
Adj. Flow (vph)	51								
RTOR Reduction (vph)	0								
Lane Group Flow (vph)	0						* 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Confl. Peds. (#/hr) Heavy Vehicles (%)	2 3%								
Turn Type	376	***			<u> </u>	- : :			·
Protected Phases									
Permitted Phases									
Actuated Green, G (s)									
Effective Green, g (s)								* * .	
Actuated g/C Ratio									
Clearance Time (s)		* .							
Vehicle Extension (s)									
Lane Grp Cap (vph)							<u> </u>		
v/s Ratio Prot									
v/s Ratio Perm			4.5.2						
v/c Ratio									
Uniform Delay, d1 Progression Factor									
Incremental Delay, d2									
Delay (s)									
Level of Service									
Approach Delay (s)									*.
Approach LOS									
Intersection Summary									
and could be community					1				

	•	-	7	€	4	4	4	†	<i>&gt;</i>	•	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ኝ		7*					ተተኈ			ተተጉ	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	
Lane Util. Factor	1.00		1.00					0.91	1.2		0.91	
Frpb, ped/bikes	1.00		1.00					1.00			1.00	
Flpb, ped/bikes	1.00		1.00					1.00			1.00	
Frt	1.00		0.85					0.97			0.97	
Flt Protected	0.95		1.00					1.00			1.00	
Satd. Flow (prot)	1752	a grand	1482					4707 1.00		÷.	4580 1.00	
Fit Permitted	0.95 1752		1.00 1482					4707			4580	
Satd. Flow (perm)	603	0	218	0	0	0	0	919	199	0	816	174
Volume (vph) Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.80	0.80	0.80	0.88	0.88	0.88
Adj. Flow (vph)	670	0.90	242	0.92	0.92	0.52	0.00	1149	249	0.00	927	198
RTOR Reduction (vph)	0/0	0	37	0	Ö	0	0	0	0	0	56	0
Lane Group Flow (vph)	670	0	205	ő	0	Ö	Ö	1398	· · ŏ	0	1069	0
Confl. Peds. (#/hr)	0,0		_00	•	J		·	.000		. •		2
Heavy Vehicles (%)	3%	2%	9%	2%	2%	2%	2%	6%	13%	2%	10%	9%
Turn Type	Prot		ustom					<u> </u>	<u></u>		<u></u>	·
Protected Phases	4							2			6	
Permitted Phases			4									
Actuated Green, G (s)	23.1	in the second	23.1	100				23.3			23.3	
Effective Green, g (s)	23.3		23.3					24.2			24.2	
Actuated g/C Ratio	0.42		0.42				18	0.44			0.44	
Clearance Time (s)	4.2		4.2					4.9			4.9	
Vehicle Extension (s)	3.0		3.0	1 				4.0			4.0	
Lane Grp Cap (vph)	736		622					2052			1997	
v/s Ratio Prot	c0.38							c0.30			0.23	
v/s Ratio Perm			0.14									
v/c Ratio	0.91		0.33					0.68			0.54	
Uniform Delay, d1	15.1		10.8					12.6			11.5	
Progression Factor	1.00		1.00					1.00			1.00	1 N.
Incremental Delay, d2	15.4		0.3					1.0			0.4	
Delay (s)	30.5		11.2					13.6			11.9	
Level of Service	С		В					В			В	
Approach Delay (s)		25.4			0.0			13.6			11.9	
Approach LOS		С			Α			В			В	
Intersection Summary												
HCM Average Control D			16.2	ŀ	ICM Le	vel of S	ervice		В			
HCM Volume to Capaci			0.79		1						b "	
Actuated Cycle Length (	` '		55.5		Sum of l				8.0			
Intersection Capacity Ut	ilization		62.3%	l	CU Leve	el of Se	rvice		В			
Analysis Period (min)			15									
c Critical Lane Group		100						g stade in				

	- ۱	<b>+</b> •	€	4	4	*	†	<i>p</i>	1	<b>↓</b>	4
Movement	BL E	3T EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ ተሳ		لولو	ተተኈ		ሻሻ	ተተተ	7	ሾሾ	<b>ተ</b> ተጉ	
	900 19			1900	1900	1900	1900	1900	1900	1900	1900
` ,		.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
	.97 0.		0.97	0.91		0.97	0.91	1.00	0.97	0.91	
		00	1.00	1.00		1.00	1.00	0.99	1.00	0.99	
		00	1.00	1.00	1	1.00	1.00	1.00	1.00	1.00	
	.00 0.		1.00	0.98		1.00	1.00	0.85	1.00	0.94	
	.95 1.		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
	133 50		3433	4966		3433	5085	1560	3433	4757	
	.95 1.0		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
· · · · · · · · · · · · · · · · · · ·	33 50		3433	4966		3433	5085	1560	3433	4757	
	26 15		115	851	142	299	1106	90	83	316	206
	.81 0.8		0.80	0.80	0.80	0.77	0.77	0.77	0.82	0.82	0.82
	180	**_* * * * * * * * * * * * * * * * * *	144	1064	178	388	1436	117	101	385	251
RTOR Reduction (vph)	0	0 0	0	0	. 0	0	0	38	0	0	0
	349 204		144	1242	0	388	1436	79	101	636	. 0
Confl. Peds. (#/hr)		2			2			2		·····	2
	rot		Prot			Prot		Perm	Prot		
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases	7 7 44	_						8			
	7.7 41		7.7	31.7		12.9	33.4	33.4	6.6	27.1	
	7.7 43		7.7	33.0		12.9	34.7	34.7	6.6	28.4	
	16 0.4		0.07	0.31		0.12	0.32	0.32	0.06	0.26	
		.3	4.0	5.3		4.0	5.3	5.3	4.0	5.3	
		.0	0.5	2.0		0.5	2.0	2.0	0.5	2.0	
and the control of th	63 199		245	1517		410	1634	501	210	1251	
	19 c0.4	<b>1</b> 1	0.04	c0.25		0.11	c0.28		0.03	c0.13	
v/s Ratio Perm	45		- 12 -1	1.212.12		11 201		0.05			
	15 1.0		0.59	0.82		0.95	0.88	0.16	0.48	0.51	
	5.1 32		48.6	34.7		47.2	34.7	26.2	49.0	33.9	
9	00 1.0		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
	7.7 26		2.3	5.0		30.5	5.6	0.1	0.6	0.1	
Delay (s) 132			50.9	39.8		77.7	40.2	26.3	49.7	34.0	
Level of Service	F 70	E	D	D		E	D	C	D	С	
Approach Delay (s)	76			40.9			46.9			36.1	
Approach LOS	Parties	Ewill y :		D.			, , D			D	
Intersection Summary											
<b>HCM Average Control Delay</b>		56.5	F	ICM Lev	el of Se	rvice	*	Е			
HCM Volume to Capacity ra	tio	0.90					. "			7.4	
Actuated Cycle Length (s)		108.0	S	um of lo	st time	(s)		12.0			
Intersection Capacity Utilizat	ion	77.2%			of Sen			D			
Analysis Period (min)		15					e in a company			. 4	
c Critical Lane Group											

	<b>5</b>	٠	<b>→</b>	•	<b></b>	•	<b>←</b>	*	4	<b>†</b>	<b>/</b>	<b>&gt;</b>
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		ă	ተተጉ			N.	ተተኑ		٣	4	7	ኻ
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.91			1.00	*0.80		0.95	0.95	1.00	0.95
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00
Frt	e e e e e	1.00	0.99			1.00	0.99	1 19 19	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)		1736	5048			1724	4306		1618	1770	1553	1618
Flt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		1736	5048		· · · · · · · · · · · · · · · · · · ·	1724	4306		1618	1770	1553	1618
Volume (vph)	2	97		56	8	70	1050	40	70	107	134	96
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.88	0.88	0.88	0.88	0.86	0.86	0.86	0.85
Adj. Flow (vph)	2	121	1835	70	9	80	1193	45	81	124	156	113
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	31	0
Lane Group Flow (vph)	0	123	1905	0	0	89	1238	0	81	124	125	113
Confl. Peds. (#/hr)	00/	407	007	11	- 00/	- Faz	rov.	5	8	00/	407	00/
Heavy Vehicles (%)	2%	4%	2%	2%	2%	5%	5%	10%	6%	2%	4%	6%
Turn Type	Prot	Prot			Prot	Prot			Split		Perm	Split
Protected Phases	5	5	2		1	1	6		8	8		7
Permitted Phases	ere or	. o'E	· = 7 4 '				FFF		40.0	10.0	8	10.0
Actuated Green, G (s)		9.5	57.1			7.9 7.9	55.5 56.8		13.3 14.2	13.3 14.2	13.3 14.2	10.6 11.5
Effective Green, g (s)		9.5	58.4			0.07	0.53		0.13	0.13	0.13	0.11
Actuated g/C Ratio		0.09	0.54 5.3			4.0	5.3	)a	4.9	4.9	4.9	4.9
Clearance Time (s)		1.0	2.0			1.0	2.0		2.0	2.0	2.0	1.0
Vehicle Extension (s)	<u> </u>	<del></del>				126	2265		213	233		172
Lane Grp Cap (vph)	e jedenskih	153 0.07	2730		el de el de la de	c0.05	0.29		0.05	0.07	204	0.07
v/s Ratio Prot		0.07	c0.38			CU.U5	0.29		0.05	0.07	c0.08	0.07
v/s Ratio Perm		0.80	0.70			0.71	0.55	يست يومي	0.38	0.53	0.61	0.66
v/c Ratio Uniform Delay, d1		48.3	18.3			48.9	17.0		42.9	43.8	44.3	46.4
Progression Factor		1.00	1.00			1.18	0.68		1.00	1.00	1.00	1.00
Incremental Delay, d2		24.2	1.5			12.8	0.00		0.4	1.2	3.8	6.7
Delay (s)		72.6	19.8			70.5	12.5		43.3	45.0	48.1	53.1
Level of Service		72.0 E	19.0 B			70.5 E	12.3 B		70.0 D	70.0	70.1 D	55.1 D
Approach Delay (s)		-	23.0		+ 1 *	<del>-</del> -	16.4			45.9	a sa Şis	ara, š
Approach LOS			20.0 C			1111 01	В			75.5 D		
			U							J	K. TOOMSON, AND TAKEN AND TAKEN	MAX. THE RESIDENCE OF THE SECOND SECO
Intersection Summary			05.4		014	1.60						
HCM Average Control De			25.4		ICM Lev	vel of Se	ervice	· .	C			
HCM Volume to Capacity			0.68						400			
Actuated Cycle Length (s			108.0			ost time			16.0			
Intersection Capacity Util	ization		62.8%	IC	U Leve	el of Ser	vice		В			
Analysis Period (min)			15									
c Critical Lane Group									100		Same of the second	

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Movement	SBT	SBR	
Lane Configurations	सी	7	
Ideal Flow (vphpl)	1900	1900	
Total Lost time (s)	4.0	4.0	
Lane Util. Factor	0.95	1.00	
Frpb, ped/bikes	1.00	0.97	
Flpb, ped/bikes	1.00	1.00	
Frt	1.00	0.85	
Fit Protected	1.00	1.00	
Satd. Flow (prot)	1656	1515	
Flt Permitted	1.00	1.00	
Satd. Flow (perm)	1656	1515	
Volume (vph)	99	100	
Peak-hour factor, PHF	0.85	0.85	
Adj. Flow (vph)	116	118	
RTOR Reduction (vph)		24	
Lane Group Flow (vph)	116	94	
Confl. Peds. (#/hr)	. 000	8	
Heavy Vehicles (%)	9%	3%	
Turn Type		Perm	
Protected Phases	7	_	
Permitted Phases	. 40.0	7	
Actuated Green, G (s)	10.6	10.6	
Effective Green, g (s) Actuated g/C Ratio	11.5 0.11	11.5 0.11	
Clearance Time (s)	4.9	4.9	
Vehicle Extension (s)	1.0	1.0	
Lane Grp Cap (vph)	176	161	
v/s Ratio Prot	c0.07	.01	
v/s Ratio Perm	7,71,71	0.06	
v/c Ratio	0.66	0.58	
Uniform Delay, d1	46.4	46.0	
Progression Factor	1.00	1.00	医骨髓 化二氯化二氯 医二氏性 医电影 医多种性病 医电影
Incremental Delay, d2	6.6	3.4	
Delay (s)	53.0	49.4	
Level of Service	D	D	
Approach Delay (s)	51.8		[1] [1] [1] [1] [1] [2] [2] [2] [2] [2] [2] [2] [2] [2] [2
Approach LOS	D		n de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co
Intersection Summary			

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Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		ተተሱ			À	ተተተ				7		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1000	1000	1000	1000	1000
Total Lost time (s)		4.0			4.0	4.0				4.0		
Lane Util. Factor		0.91			1.00	0.91				1.00		
Frpb, ped/bikes		1.00			1.00	1.00				0.99		
Flpb, ped/bikes		1.00			1.00	1.00				1.00		
Frt		0.98 1.00			1.00 0.95	1.00				0.86 1.00	e para est	
Fit Protected		4984	* 1	200	1688	4848				806		
Satd. Flow (prot)		1.00	11115	again g	0.95	1.00				1.00		
Fit Permitted		4984			1688	4848		- 11 JA		806		
Satd. Flow (perm)		1546	185	1	60	592	0	0	0	279	0	0
Volume (vph)	0 0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.88	0.88	0.88	0.88	0.88
Peak-hour factor, PHF	0.64	1840	220	0.63	72	713	0.63	0.00	0.00	317	0.00	0.00
Adj. Flow (vph) RTOR Reduction (vph)	0	5	0	0	0	713	0	0	0	0	0	0
Lane Group Flow (vph)	0	2055	0	0	73	713	. 0	0	0	317	. 0	0
Confl. Peds. (#/hr)	Ų	2000	2		75	7.10		Ů,	, . 0	2	. 0	
Heavy Vehicles (%)	2%	2%	3%	2%	7%	7%	2%	2%	2%	6%	2%	2%
Turn Type	2/0	2/0	0.0	Prot	Prot		- / / /			Free		
Protected Phases		2		1	1	6				. 100		
Permitted Phases						•				Free		
Actuated Green, G (s)	2.1	92.0			6.7	108.0				108.0		
Effective Green, g (s)		93.3			6.7	108.0				108.0		
Actuated g/C Ratio		0.86			0.06	1.00				1.00		
Clearance Time (s)		5.3			4.0	2.0						
Vehicle Extension (s)	uai	2.0			1.0	4.0		Rija k				
Lane Grp Cap (vph)		4306			105	4848				806		
v/s Ratio Prot		0.41			0.04	0.15	100	4 1	200	- 747.	1.00	
v/s Ratio Perm		* P. W. T.				. 16/8/17				0.39		
v/c Ratio		0.48			0.70	0.15				0.39		
Uniform Delay, d1		1.7			49.6	0.0				0.0		
Progression Factor		0.96			1.14	1.00				1.00		
Incremental Delay, d2		0.3			14.3	0.1				1.4		
Delay (s)		1.9			70.9	0.1				1.4		
Level of Service		Α			E	Α				Α		
Approach Delay (s)		1.9				6.6			1.4			5.1
Approach LOS		Α				Α			Α			Α
Intersection Summary												
HCM Average Control De			2.4	L	ICM Le	vel of Se	ervice		Α			
	elav		3.4	1								
HCM VOIUME to Capacity	•		3.4 0.71	1	10111 20							
HCM Volume to Capacity Actuated Cycle Length (s	/ ratio		0.71									
Actuated Cycle Length (s	ratio ;)		0.71 108.0	S	Sum of I	ost time	(s)		0.0 <b>A</b>			
	ratio ;)		0.71	S	Sum of I		(s)		0.0			



Lane Configurations   Ideal Flow (vphpl)   1000   1001   1000   1014   Lost time (s)   4.0   Lane Util. Factor   1.00   Frpb. ped/bikes   1.00   Frpb. ped/bikes   1.00   Frpb. ped/bikes   1.00   Fr   1.00   Satd. Flow (prot)   848   Fit Permitted   1.00   Satd. Flow (perm)   848   Fit Permitted   1.00   Satd. Flow (perm)   848   Satd. Flow (perm)   848   Satd. Flow (perm)   848   Satd. Flow (prot)   605   Satd. Flow (prot)   605   Satd. Flow (ph)   605   S		000	
Ideal Flow (vphpl)   1000   Total Lost time (s)	Movement	SBR	
Total Lost time (s)			
Lane Util. Factor 1.00 Frpb, ped/bikes 1.00 Frpb, ped/bikes 1.00 Frt 0.86 Filt Protected 1.00 Satd. Flow (prot) 848 Fit Permitted 1.00 Satd. Flow (perm) 848 Volume (vph) 532 Peak-hour factor, PHF 0.88 Adj. Flow (vph) 605 RTOR Reduction (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, g (s) 108.0 Effective Green, g (s) 108.0 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 Vis Ratio Prot Vis Ratio Prot Vis Ratio Prot Vis Ratio Prot Vis Ratio Port Vis Rati			
Frpb, ped/bikes 1.00 Fipb, ped/bikes 1.00 Fit 0.86 Fit Protected 1.00 Satd. Flow (prort) 848 Fit Permitted 1.00 Satd. Flow (perm) 848 Volume (vph) 532 Peak-hour factor, PHF 0.88 Adj. Flow (vph) 605 RTOR Reduction (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 Volume (vph) 848 Volume (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Premitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 Volume (vph) 84			
Fipb, ped/bikes 1.00 Frt 0.86 Fit Protected 1.00 Satd. Flow (prot) 848 Fit Permitted 1.00 Satd. Flow (perm) 848 Volume (vph) 532 Peak-hour factor, PHF 0.88 Adj. Flow (vph) 605 RTOR Reduction (vph) 0 Lane Group Flow (vph) 605 Corfil. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Permitted Phases Permitted Phases (108.0) Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Gro Cap (vph) 848 V/S Ratio Prot V/S Ratio Perm c0.71 V/C Ratio 0.71 Uniforn Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS			
Frit			
Fit Protected 1.00 Satd. Flow (prot) 848 Fit Permitted 1.00 Satd. Flow (perm) 848 Volume (vph) 532 Peak-hour factor, PHF 0.88 Adj. Flow (vph) 605 RTOR Reduction (vph) 0 Lane Group Flow (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Gro Cap (vph) 848 v/s Ratio Prot v/s Ratio Prot v/s Ratio Prot v/s Ratio Prot v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS		1 A 10 TO 1 TO 1	
Satd. Flow (prot) 848 Fit Permitted 1.00 Satd. Flow (perm) 848 Volume (vph) 532 Peak-hour factor, PHF 0.88 Adj. Flow (vph) 605 RTOR Reduction (vph) 0 Lane Group Flow (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/G Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Prot v/s Ratio Port v/s Ratio Port v/s Ratio Port 1.00 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS			
Fit Permitted 1.00 Satd. Flow (perm) 848  Volume (vph) 532 Peak-hour factor, PHF 0.88 Adj. Flow (vph) 605 RTOR Reduction (vph) 0 Lane Group Flow (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2%  Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Perm c0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS	The first control of the second of the secon		
Satd. Flow (perm)         848           Volume (vph)         532           Peak-hour factor, PHF         0.88           Adj. Flow (vph)         605           RTOR Reduction (vph)         0           Lane Group Flow (vph)         605           Corfl. Peds. (#/hr)         Heavy Vehicles (%)           Heavy Vehicles (%)         2%           Turn Type         Free           Protected Phases         Free           Permitted Phases         Free           Actuated Green, G (s)         108.0           Effective Green, g (s)         108.0           Actuated g/C Ratio         1.00           Clearance Time (s)         Vehicle Extension (s)           Lane Grp Cap (vph)         848           v/s Ratio Prot         v/s Ratio Prot           v/s Ratio Perm         c0.71           Uniform Delay, d1         0.0           Progression Factor         1.00           Incremental Delay, d2         5.1           Delay (s)         5.1           Level of Service         A           Approach Delay (s)           Approach LOS			
Volume (vph)         532           Peak-hour factor, PHF         0.88           Adj. Flow (vph)         605           RTOR Reduction (vph)         0           Lane Group Flow (vph)         605           Confl. Peds. (#/hr)         Heavy Vehicles (%)           Heavy Vehicles (%)         2%           Turn Type         Free           Protected Phases         Free           Permitted Phases         Free           Actuated Green, G (s)         108.0           Effective Green, g (s)         108.0           Actuated g/C Ratio         1.00           Clearance Time (s)         Vehicle Extension (s)           Lane Grp Cap (vph)         848           v/s Ratio Prot         v/s Ratio Prot           v/s Ratio         0.71           Uniform Delay, d1         0.0           Progression Factor         1.00           Incremental Delay, d2         5.1           Delay (s)         5.1           Level of Service         A           Approach Delay (s)           Approach LOS	어느 회사의 교원에 가격하지만 하는 것이 되었다. 그는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없다.		
Peak-hour factor, PHF         0.88           Adj. Flow (vph)         605           RTOR Reduction (vph)         0           Lane Group Flow (vph)         605           Confl. Peds. (#/hr)         Heavy Vehicles (%)           Heavy Vehicles (%)         2%           Turn Type         Free           Protected Phases         Free           Actuated Green, G (s)         108.0           Effective Green, g (s)         108.0           Actuated g/C Ratio         1.00           Clearance Time (s)         Vehicle Extension (s)           Lane Grp Cap (vph)         848           V/s Ratio Perm         c0.71           v/s Ratio Perm         c0.71           v/c Ratio         0.71           Uniform Delay, d1         0.0           Progression Factor         1.00           Incremental Delay, d2         5.1           Delay (s)         5.1           Level of Service         A           Approach Delay (s)         A           Approach LOS			
Adj. Flow (vph) 605 RTOR Reduction (vph) 0 Lane Group Flow (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 V/s Ratio Perm c0.71 V/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach LOS		and the second	
RTOR Reduction (vph) Lane Group Flow (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach LOS			
Lane Group Flow (vph) 605 Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach LOS			
Confl. Peds. (#/hr) Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Prot v/s Ratio Perm c0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach LOS			
Heavy Vehicles (%) 2% Turn Type Free Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach LOS	Confl. Peds. (#/hr)		
Protected Phases Permitted Phases Free Actuated Green, G (s) 108.0 Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS		2%	agama (Alagoriana) in transportant a la companya di salah salah salah salah salah salah salah salah salah salah
Permitted Phases Free Actuated Green, G (s) 108.0  Effective Green, g (s) 108.0  Actuated g/C Ratio 1.00  Clearance Time (s)  Vehicle Extension (s)  Lane Grp Cap (vph) 848  v/s Ratio Prot  v/s Ratio Perm c0.71  v/c Ratio 0.71  Uniform Delay, d1 0.0  Progression Factor 1.00  Incremental Delay, d2 5.1  Delay (s) 5.1  Level of Service A  Approach Delay (s)  Approach LOS	Turn Type	Free	
Actuated Green, G (s) 108.0  Effective Green, g (s) 108.0  Actuated g/C Ratio 1.00  Clearance Time (s)  Vehicle Extension (s)  Lane Grp Cap (vph) 848  v/s Ratio Prot  v/s Ratio Perm c0.71  v/c Ratio 0.71  Uniform Delay, d1 0.0  Progression Factor 1.00  Incremental Delay, d2 5.1  Delay (s) 5.1  Level of Service A  Approach Delay (s)  Approach LOS			
Effective Green, g (s) 108.0 Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS		Free	
Actuated g/C Ratio 1.00 Clearance Time (s) Vehicle Extension (s) Lane Grp Cap (vph) 848 v/s Ratio Prot v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS		45.5	
Clearance Time (s)  Vehicle Extension (s)  Lane Grp Cap (vph) 848  v/s Ratio Prot  v/s Ratio Perm c0.71  v/c Ratio 0.71  Uniform Delay, d1 0.0  Progression Factor 1.00  Incremental Delay, d2 5.1  Delay (s) 5.1  Level of Service A  Approach Delay (s)  Approach LOS			
Vehicle Extension (s)  Lane Grp Cap (vph) 848  v/s Ratio Prot  v/s Ratio Perm c0.71  v/c Ratio 0.71  Uniform Delay, d1 0.0  Progression Factor 1.00  Incremental Delay, d2 5.1  Delay (s) 5.1  Level of Service A  Approach Delay (s)  Approach LOS		1.00	
Lane Grp Cap (vph) 848  v/s Ratio Prot  v/s Ratio Perm c0.71  v/c Ratio 0.71  Uniform Delay, d1 0.0  Progression Factor 1.00  Incremental Delay, d2 5.1  Delay (s) 5.1  Level of Service A  Approach Delay (s)  Approach LOS			
v/s Ratio Prot v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS			
v/s Ratio Perm c0.71 v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS		848	
v/c Ratio 0.71 Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS	the contract of the contract o		
Uniform Delay, d1 0.0 Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS			
Progression Factor 1.00 Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS			
Incremental Delay, d2 5.1 Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS			
Delay (s) 5.1 Level of Service A Approach Delay (s) Approach LOS			
Level of Service A Approach Delay (s) Approach LOS			
Approach Delay (s) Approach LOS			in the contract of the first of the contract of
Approach LOS		^	
124 CERTIFICATION OF A PART OF THE PROPERTY OF	Approach LOS		
Intersection Summary	Intersection Summary		

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Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBA	SBU	SBL
Lane Configurations	Ä	नाा			Ä	ተተጉ		14.54	<b>个</b> 个	7*		<u>አ</u> ካ
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	*0.40			1.00	*0.85	s that	0.97	*0.85	1.00		0.97
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00	0.97		1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00	1.00		1.00
Frt	1.00	0.98			1.00	0.99		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	2902			1528	4547		2968	3019	1413		3129
Flt Permitted	0.95	1.00			0.95	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	2902			1528	4547		2968	3019	1413		3129
Volume (vph)	153	1457	216	4	37	520	53	55	286	260	6	30
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.85	0.85	0.83	0.83	0.83	0.78	0.78
Adj. Flow (vph)	172	1637	243	5	44	612	62	66	345	313	8	38
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	63	0	0
Lane Group Flow (vph)	172	1880	0	0	49	674	0	66	345	250	0	46
Confl. Peds. (#/hr)			2							14	•	
Heavy Vehicles (%)	3%	2%	6%	2%	20%	5%	6%	18%	7%	11%	2%	14%
Turn Type	Prot			Prot	Prot			Prot		Perm	Prot	Prot
Protected Phases	5	2		1	1	6		3	8		7	- 7
Permitted Phases										8		
Actuated Green, G (s)	18.6	59.2			4.7	45.3		11.0	21.8	21.8		3.7
Effective Green, g (s)	18.6	60.5			4.7	46.6		11.0	23.1	23.1		3.7
Actuated g/C Ratio	0.17	0.56			0.04	0.43		0.10	0.21	0.21		0.03
Clearance Time (s)	4.0	5.3		,	4.0	5.3		4.0	5.3	5.3		4.0
Vehicle Extension (s)	1.5	2.0			1.0	2.0	richt. Ar Gebeure	1.0	2.0	2.0	a a Nadita.	1.5
Lane Grp Cap (vph)	302	1626			66	1962		302	646	302		107
v/s Ratio Prot	0.10	c0.65			c0.03	0.15		0.02	0.11			0.01
v/s Ratio Perm								* 1 * 125		c0.18		
v/c Ratio	0.57	1.16	1.1		0.74	0.34		0.22	0.53	0.83		0.43
Uniform Delay, d1	41.0	23.8			51.1	20.5		44.6	37.7	40.6		51.1
Progression Factor	0.75	0.57			0.64	0.51		1.00	1.00	1.00		1.00
Incremental Delay, d2	1.3	77.1			25.1	0.4		0.1	0.4	16.1		1.0
Delay (s)	32.0	90.5			57.7	10.8	100	44.7	38.1	56.6	100	52.1
Level of Service	C	F			Е	В		D	D	Ė		D
Approach Delay (s)		85.6				14.0		Villagini.	46.7			
Approach LOS		F				В			D			
Intersection Summary												
HCM Average Control D	elav		61.3	ŀ	ICM Le	vel of S	ervice		Е			
HCM Volume to Capacit			1.04	·								
Actuated Cycle Length (			108.0	9	Sum of	lost time	e (s)		16.0			
Intersection Capacity Uti	,	4.7	63.8%			el of Se			В			
Analysis Period (min)			15		30 E0	J. J. OO			-			
c Critical Lane Group				** :			ej en en					
o Ontota Lano Group												

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Movement	SBT	SBR
La Configurations	<b>↑</b> ↑	
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	ti tiri tiri teksi tersekan oleh kerilan kerilangan di dibir di perdatah di dibir di dibir di dibir di dibir d Birangan
Flpb, ped/bikes	1.00	
Frt	0.94	
Flt Protected	1.00	
Satd. Flow (prot)	3105	
Flt Permitted	1.00	
Satd. Flow (perm)	3105	en en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en La companya de la companya en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en 1900 en
Volume (vph)	126	78
Peak-hour factor, PHF	0.78	0.78
Adj. Flow (vph)	162	40 <mark>,100</mark> ,000 - 190,000 - 190,000 - 194,000 - 190,000 - 190,000 - 190,000 - 190,000
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	262	
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	10%	9%
Turn Type		
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	14.5	
Effective Green, g (s)	15.8	
Actuated g/C Ratio Clearance Time (s)	0.15 5.3	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	454	
v/s Ratio Prot	c0.08	
v/s Ratio Perm	00.00	
v/c Ratio	0.58	
Uniform Delay, d1	43.0	
Progression Factor	1.00	
Incremental Delay, d2	1.1	
Delay (s)	44.1	
Level of Service	D	
Approach Delay (s)	45.3	医多分性 医乳头 医电压系统 网络巴雷亚属的 电电压器
Approach LOS	D	
Intersection Summary		

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Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		ሾፎ	ተተተ	7		ሽኘ	ተተተ	7	ሻ	€Î∱	7	Ä
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		*0.80	*0.85	1.00		*0.80	*0.85	1.00	0.91	*0.80	1.00	0.91
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	0.99	1.00	1.00	0.99	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Fit Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		2804	4571	1515		2831	4486	1515	1610	2868	1396	1579
Flt Permitted	1	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		2804	4571	1515		2831	4486	1515	1610	2868	1396	1579
Volume (vph)	2	1065	644	40	3	5	400	170	8	30	7	74
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.79	0.79	0.79	0.79	0.70	0.70	0.70	0.88
Adj. Flow (vph)	2	1224	740	46	4	6	506	215	11	43	10	84
RTOR Reduction (vph)	0	0	0	15	0	0	0	43	0	0	10	0
Lane Group Flow (vph)	0	1226	740	31	0	10	506	172	11	43	0	42
Confl. Peds. (#/hr)				2				2			2	2
Heavy Vehicles (%)	2%	3%	6%	5%	2%	2%	8%	5%	2%	6%	14%	4%
Turn Type	Prot	Prot		Perm	Prot	Prot		Perm	Split		Perm	Split
Protected Phases	5	5	2	4.	1	1	6		3	3		4
Permitted Phases				2				6			3	
Actuated Green, G (s)		56.2	71.5	71.5		1.2	16.5	16.5	4.6	4.6	4.6	13.4
Effective Green, g (s)		56.2	72.8	72.8		1.2	17.8	17.8	4.6	4.6	4.6	13.4
Actuated g/C Ratio		0.52	0.67	0.67		0.01	0.16	0.16	0.04	0.04	0.04	0.12
Clearance Time (s)		4.0	5.3	5.3		4.0	5.3	5.3	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0	2.0	tara da kila	1.0	2.0	2.0	1.5	1.5	1.5	1.5
Lane Grp Cap (vph)		1459	3081	1021		31	739	250	69	122	59	196
v/s Ratio Prot		c0.44	0.16	9 J. W. J.	14 3 4 8	0.00	0.11		0.01	c0.01		0.03
v/s Ratio Perm			* ***	0.02				c0.11			0.00	
v/c Ratio		0.84	0.24	0.03		0.32	0.68	0.69	0.16	0.35	0.01	0.21
Uniform Delay, d1		22.1	6.8	5.9		53.0	42.5	42.5	49.8	50.3	49.5	42.6
Progression Factor		0.63	0.82	0.82		0.75	0.91	0.88	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.4	0.0	0.0		2.1	4.9	13.8	0.4	0.6	0.0	0.2
Delay (s)		14.4	5.6	4.8		42.1	43.6	51.0	50.2	50.9	49.5	42.8
Level of Service		В	Α	Α		D	D	D	D	D	D	D
Approach Delay (s)			10.9				45.8			50.6		
Approach LOS			В				D			D		
Intersection Summary												
HCM Average Control De	elav		26.7		ICM Lev	el of Se	ervice		С			
HCM Volume to Capacity	ratio		0.80			3. 3. 3.						
Actuated Cycle Length (s			108.0	<b>Q</b>	um of lo	st time	(s)		16.0			
Intersection Capacity Util			81.7%		CU Leve				. D.0			
Analysis Period (min)			15			51 50						
c Critical Lane Group									18.0			
o Officer Latte Group												

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Movement	SBT	SBR	
Lan Configurations	1 <u>0e</u>	nac ام	
Ideal Flow (vphpl)	1900	1900	
Total Lost time (s)	4.0	4.0	
Lane Util. Factor	*0.80	1.00	
Frpb, ped/bikes	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	
Frt	1.00	0.85	
Flt Protected	0.97	1.00	
Satd. Flow (prot)	2766	1538	
Flt Permitted	0.97	1.00	
Satd. Flow (perm)	2766	1538	
Volume (vph)	19	204	
Peak-hour factor, PHF	0.88	0.88	
Adj. Flow (vph)	22	232	
RTOR Reduction (vph)	0	56	
Lane Group Flow (vph)	64	176	
Confl. Peds. (#/hr)			
Heavy Vehicles (%)	11%	5%	
Turn Type		Perm	
Protected Phases	4		
Permitted Phases		4	
Actuated Green, G (s)	13.4	13.4	
Effective Green, g (s)	13.4	13.4	
Actuated g/C Ratio	0.12	0.12	
Clearance Time (s)	4.0	4.0	
Vehicle Extension (s)	1.5	1.5	
Lane Grp Cap (vph) v/s Ratio Prot	343 0.02	191	
v/s Ratio Perm		c0.11	and the first control of the control of the second of the second of the second of the second of the second of
v/c Ratio	0.19	0.92	
Uniform Delay, d1	42.4	46.8	
Progression Factor	1.00	1.00	
Incremental Delay, d2	0.1	42.7	
Delay (s)	42.5	89.5	
Level of Service	D	F	
Approach Delay (s)	74.8		
Approach LOS	Е		
Intersection Summary			

	<b>5</b>	۶	<b>→</b>	•	F	•	<b>←</b>	•	4	<b>†</b>		<b>&gt;</b>
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		Ä	<b>^</b> ^			Ä	<b>11</b>		ħ	सी	7*	*
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0		4.0	4.0		4.0
Lane Util. Factor		1.00	0.91			1.00	0.91		0.95	0.95	$\{ \{ i,j\} \in \mathbb{N}_{+} \}$	0.95
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00	A. CALLERY	1.00	1.00		1.00
Frt		1.00	0.99			1.00	0.99		1.00	1.00		1.00
Fit Protected		0.95	1.00			0.95	1.00		0.95	0.97		0.95
Satd. Flow (prot)		1730	4773			1770	4743		1618	1691		1633
Flt Permitted		0.95	1.00			0.95	1.00		0.95	0.97		0.95
Satd. Flow (perm)		1730	4773			1770	4743		1618	1691		1633
Volume (vph)	12	45	639	32	3	9	605	32	18	6	0	39
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.88	0.88	0.88	0.88	0.46	0.46	0.46	0.68
Adj. Flow (vph)	15	55	779	39	3	10	688	36	39	13	0	57
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	Ö	70	818	ŏ	Ö	13	724	Ö	25	27	0	57
Confl. Peds. (#/hr)	· ·	, 0	0.0	2	<b>.</b>			2	· · · <del></del>	. =	2	2
Heavy Vehicles (%)	2%	5%	8%	3%	2%	2%	8%	16%	6%	2%	2%	5%
Turn Type	Prot	Prot	<u> </u>	9.70	Prot	Prot			Split	<u> </u>	Perm	Split
Protected Phases	5	5	2		1 100	1.	6		4	4	. 01111	3
Permitted Phases		•	<del>-</del>			•	•			;	4	s ¥
Actuated Green, G (s)		6.5	68.1			3.1	64.7		6.8	6.8		12.7
Effective Green, g (s)		6.5	69.4			3.1	66.0		6.8	6.8		12.7
Actuated g/C Ratio		0.06	0.64	:		0.03	0.61	w	0.06	0.06	4	0.12
Clearance Time (s)		4.0	5.3			4.0	5.3		4.0	4.0		4.0
Vehicle Extension (s)		1.0	2.0			1.0	2.0		1.5	1.5		1.0
Lane Grp Cap (vph)		104	3067			51	2899		102	106	<u> </u>	192
v/s Ratio Prot	Januaria	c0.04	c0.17			0.01	c0.15			c0.02	4 . 4	0.03
v/s Ratio Perm	to v	CO.04	CU.17			0.01	CO. 13		0.02	00.02		0.00
v/s Ratio Ferm		0.67	0.27			0.25	0.25		0.25	0.25	4, 81 %	0.30
and the control of th		49.7	8.3			51.3	9.6	tin est	48.2	48.2		43.6
Uniform Delay, d1		1.07	0.73			1.00	1.00	er e e e e e e e e e e e e e e e e e e	1.00	1.00		1.00
Progression Factor		12.5	0.73			1.00	0.2		0.5	0.5		0.3
Incremental Delay, d2		65.9	6.3			52.3	9.8		48.6	48.7		43.9
Delay (s)		65.9 E				52.5 D	9.0 A		40.0 D	40.7 D		43.9 D
Level of Service		<del></del> .	A	e jed jeg			10.6		ט			D
Approach Delay (s)			11.0	e e Arab	r skrije	4.				48.6	. Programme	
Approach LOS			В				. В			D		
Intersection Summary												
HCM Average Control De	elay		16.7	ŀ	ICM Lev	vel of S	ervice		В			
HCM Volume to Capacity			0.35	1.20								
Actuated Cycle Length (s			108.0	5	Sum of le	ost time	(s)		12.0			
Intersection Capacity Uti			39.8%		CU Leve				Α			
Analysis Period (min)	. "		15									
c Critical Lane Group				g jaran								1 120



Movement	SBT	SBR				
Lane Configurations	। यह क्	ODN				
Ideal Flow (vphpl)	1900	1900				
Total Lost time (s)	4.0	1000				
Lane Util. Factor	0.95					
Frpb, ped/bikes	1.00					
Flpb, ped/bikes	1.00					
Frt	0.86		n San San San San San San San San San Sa			
FIt Protected	1.00					
Satd. Flow (prot)	1481					
FIt Permitted	1.00		ertal ge			
Satd. Flow (perm)	1481					
Volume (vph)	6	85				
Peak-hour factor, PHF	0.68	0.68				* *
Adj. Flow (vph)	9	125				
RTOR Reduction (vph)	0	0				
Lane Group Flow (vph)	134	0				
Confl. Peds. (#/hr)	2%	5%				
Heavy Vehicles (%) Turn Type	270	5%		·		
Protected Phases	3					e e e e e e e e e e e e e e e e e e e
Permitted Phases			and the second			
Actuated Green, G (s)	12.7					
Effective Green, g (s)	12.7					
Actuated g/C Ratio	0.12					
Clearance Time (s)	4.0					
Vehicle Extension (s)	1.0					
Lane Grp Cap (vph)	174				 	
v/s Ratio Prot	c0.09					
v/s Ratio Perm						
v/c Ratio	0.77					
Uniform Delay, d1	46.2					
Progression Factor	1.00					
Incremental Delay, d2	17.2 63.5					
Delay (s) Level of Service	63.5 E					
Approach Delay (s)	<b>5</b> 7.6	and the second				
Approach LOS	57.6 E	to the second second			Marketter of	
	_					
Intersection Summary						

	<b></b>	۶	<b>→</b>	•	F	•	<b>←</b>	*	€	4	<b>†</b>	<b>/</b>
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		'R H	<b>†</b> \$			Ä	<b>↑</b> ₽			Ä	<b>↑</b> Ъ	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0		,	4.0	4.0	
Lane Util. Factor		1.00	0.95			1.00	0.95			1.00	0.95	
Frpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	5.7		1.00	1.00	
Frt		1.00	0.99			1.00	0.99			1.00	0.98	
FIt Protected		0.95	1.00			0.95	1.00			0.95	1.00	
Satd. Flow (prot)		1770	3330			1736	3251			1712	3417	
Flt Permitted		0.95	1.00			0.95	1.00			0.95	1.00	
Satd. Flow (perm)		1770	3330			1736	3251			1712	3417	
Volume (vph)	5	144	511	35	1	96	344	21	7	45	580	87
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.82	0.82	0.82	0.82
Adj. Flow (vph)	6	171	608	42	1	114	410	25	9	55	707	106
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	177	650	. 0	0	115	435	0	0	64	813	0
Confl. Peds. (#/hr)				2				3				2
Heavy Vehicles (%)	2%	2%	7%	11%	2%	4%	10%	10%	2%	6%	3%	6%
Turn Type	Prot	Prot			Prot	Prot			Prot	Prot		
Protected Phases	7	7	4	5	3	3	8		5	5	2	
Permitted Phases												
Actuated Green, G (s)	٠.	10.3	17.8			7.3	14.8			4.6	34.2	
Effective Green, g (s)	, ,	10.3	19.1			7.3	16.1			4.6	35.5	
Actuated g/C Ratio		0.13	0.23			0.09	0.20			0.06	0.43	
Clearance Time (s)		4.0	5.3			4.0	5.3			4.0	5.3	
Vehicle Extension (s)		1.0	4.0			1.0	4.0			1.0	4.0	
Lane Grp Cap (vph)		222	776			155	638			96	1479	
v/s Ratio Prot		c0.10	c0.20			0.07	0.13			c0.04	c0.24	
v/s Ratio Perm												
v/c Ratio		0.80	0.84			0.74	0.68			0.67	0.55	
Uniform Delay, d1		34.8	30.0			36.4	30.6			37.9	17.3	
Progression Factor		1.00	1.00	A Company		1.00	1.00			1.00	1.00	
Incremental Delay, d2		16.7	8.2			15.3	3.3			12.7	1.5	
Delay (s)		51.5	38.2			51.8	33.8			50.7	18.8	
Level of Service		D	D			D	С			D	В	
Approach Delay (s)			41.0	Part Maria			37.6				21.1	
Approach LOS			D				D				С	
Intersection Summary												
HCM Average Control D	elav		29.6		ICM Le	vel of S	ervice		С			
HCM Volume to Capacit			0.65					4				
Actuated Cycle Length (	-		82.0	c	Sum of I	ost time	(s)		12.0			
Intersection Capacity Ut			57.8%			el of Se			12.0 B			
Analysis Period (min)	meauoii		15	•	CO LOV	J, J, OC						
c Critical Lane Group			.3									
c Chilical Lane Group							7 · .					

	L.	<b>\</b>	1	1	
Movement	SBU	SBL	SBT	SBR	
Lane Configurations		ă	<b>^</b>	75	
Ideal Flow (vphpl)	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0	4.0	
Lane Util. Factor		1.00	0.95	1.00	
Frpb, ped/bikes		1.00	1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00	
Satd. Flow (prot)		1770	3471	1502	
Flt Permitted		0.95	1.00	1.00	
Satd. Flow (perm)		1770	3471	1502	
Volume (vph)	1	39	315	86	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	
Adj. Flow (vph)	1	48	384	105	
RTOR Reduction (vph)	0	0	0	60	
Lane Group Flow (vph)	0	49	384	45	
Confl. Peds. (#/hr)				2	
Heavy Vehicles (%)	2%	2%	4%	6%	
Turn Type	Prot	Prot		Perm	
Protected Phases	1	1	6		
Permitted Phases				6	
Actuated Green, G (s)		4.1	33.7	33.7	
Effective Green, g (s)		4.1	35.0	35.0	
Actuated g/C Ratio		0.05	0.43	0.43	
Clearance Time (s)		4.0	5.3	5.3	
Vehicle Extension (s)	200	1.0	4.0	4.0	
Lane Grp Cap (vph)		89	1482	641	
v/s Ratio Prot		0.03	0.11		
v/s Ratio Perm				0.03	et en en eller for en de la finale en en elle Maria (Maria Merina), a en en eller et en engant en en en en el En en
v/c Ratio		0.55	0.26	0.07	
Uniform Delay, d1		38.0	15.1	13.9	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		4.1	0.4	0.2	
Delay (s)		42.2	15.6	14.1	
Level of Service		D	В	В	and the Committee of th
Approach Delay (s)			17.7		
Approach LOS			В		en en en en en en en en en en en en en e
Intersection Summary					addine a ceographia se es escribir es es concerna es angina e

	∌	۶		*	F	•	-	*	₽ì	1	<b>†</b>	<i>&gt;</i>
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		) Id	<b>∱</b> Љ			Ĭ	41			jk K	<b>↑</b> ↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0			4.0	4.0	
Lane Util. Factor		1.00	0.95	a. tell		1.00	0.95			1.00	0.95	
Frpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.97			1.00	0.99	
Fit Protected		0.95	1.00			0.95	1.00		•	0.95	1.00 3366	
Satd. Flow (prot)		1736	3236			1720 0.95	3135 1.00			1628 0.95	1.00	
Fit Permitted		0.95	1.00 3236	Strain The		1720	3135			1628	3366	
Satd. Flow (perm)		1736			4.	61	216	47	1	63	381	35
Volume (vph)	4	178	373	87	1			0.80	0.80	0.80	0.80	0.80
Peak-hour factor, PHF	0.81	0.81	0.81 460	0.81	0.80 1	0.80 76	0.80 270	59	0.60	79	476	44
Adj. Flow (vph)	5	220 0	460	107		0	270	0	0	0	4/0	0
RTOR Reduction (vph)	0	225	567	0	0	77	329	0	0	80	520	0
Lane Group Flow (vph)	0	223	307	. 0	U	16	329	5	U	00	320	4
Confl. Peds. (#/hr) Heavy Vehicles (%)	2%	4%	7%	13%	2%	5%	13%	6%	2%	11%	5%	14%
	Prot	Prot	7 70	10/6	Prot	Prot	:- 1 <b>Q</b> /0 ;-	. O 76.	Prot	Prot	3 78	17.70
Turn Type Protected Phases	5	5	2		FIUL	1	6		3	3	8	
Permitted Phases	J	J	~		!					, 0		
Actuated Green, G (s)	:	9.5	21.7			4.1	16.3			4.3	17.9	
Effective Green, g (s)		9.5	22.6			4.1	17.2			4.3	19.2	
Actuated g/C Ratio		0.15	0.35			0.06	0.27			0.07	0.30	
Clearance Time (s)		4.0	4.9			4.0	4.9			4.0	5.3	
Vehicle Extension (s)		1.0	2.0			1.0	2.0	dia .		1.0	2.0	
Lane Grp Cap (vph)	<u> </u>	258	1145			110	844		****	110	1011	
v/s Ratio Prot	4 4	c0.13	c0.18			0.04	0.10			c0.05		
v/s Ratio Perm		00.10				. •,•				. <del>- •</del> • • •	7,7,777 77.	
v/c Ratio		0.87	0.50			0.70	0.39			0.73	0.51	
Uniform Delay, d1		26.6	16.2			29.3	19.1			29.2	18.5	
Progression Factor		1.00	1.00			1.00	1.00			1.00	1.00	
Incremental Delay, d2		25.3	0.1			14.5	0.1			18.2	0.2	
Delay (s)		51.9				43.8	19.2			47.5	18.7	
Level of Service		D	В			D	В			D	В	
Approach Delay (s)		5.475	26.4				23.9				22.5	
Approach LOS		* ***	С				С	*			С	
Intersection Summary												
HCM Average Control De			23.7	ŀ	ICM Le	vel of S	ervice		С			
HCM Volume to Capacity			0.55								1.5	
Actuated Cycle Length (s			63.9			ost time			8.0			
Intersection Capacity Util	ization		52.4%	·	CU Lev	el of Se	rvice		Α.			
Analysis Period (min)			15									
c Critical Lane Group												

	ۅؙ	<b>\</b>	<del> </del>	1	
Movement	SBU	SBL	SBT	SBA	
Lane Configurations		Ä	<b>^</b>	7	
Ideal Flow (vphpl)	1900	1900	1900	1900	The state of the s
Total Lost time (s)		4.0	4.0	4.0	
Lane Util. Factor		1.00	0.95	1.00	
Frpb, ped/bikes		1.00	1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00	
Satd. Flow (prot)		1738	3471	1475	
Flt Permitted		0.95	1.00	1.00	
Satd. Flow (perm)	····	1738	3471	1475	
Volume (vph)	2	26	254	147	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	
Adj. Flow (vph)	2	32	314	181	
RTOR Reduction (vph)	0	0	0	37	
Lane Group Flow (vph)	. 0	34	314	144	
Confl. Peds. (#/hr)				2	
Heavy Vehicles (%)	2%	4%	4%	8%	
Turn Type	Prot	Prot		Perm	
Protected Phases	7	7	4		
Permitted Phases				4	
Actuated Green, G (s)		2.0	15.6	15.6	
Effective Green, g (s)		2.0	16.9	16.9	
Actuated g/C Ratio		0.03	0.26	0.26	
Clearance Time (s)		4.0	5.3	5.3	
Vehicle Extension (s)		1.0	2.0	2.0	
Lane Grp Cap (vph)		54	918	390	
v/s Ratio Prot		0.02	0.09		and the control of the control of the control of the control of the control of the control of the control of t Notice that the control of the
v/s Ratio Perm				0.10	
v/c Ratio		0.63	0.34	0.37	
Uniform Delay, d1		30.6	19.0	19.2	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		15.4	0.1	0.2	
Delay (s)		45.9	19.1	19.4	
Level of Service		D	В	В	
Approach Delay (s)			20.9		
Approach LOS			С		
Intersection Summary					

Movement		<b>5</b>	۶	-	*	F	€	<b>←</b>	•	₽	4	<b>†</b>	<i>&gt;</i>
Ideal Flow (vphp)   1900	Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Total Lost time (s)	Lane Configurations		<i>ች</i> ሻ										
Lame Util. Factor		1900			1900	1900				1900			
Frpb, ped/bikes					4								
Fipb, ped/bikes													
Fri Trotected													
Fit Protected													
Satd. Flow (prot)													
Fit Permitted   0.95   1.00   0.95   1.00   1.00   0.95   1.00   1.00   2.00   2.00   3368   4807   3400   4848   1561   2.972   3505   1546   3.00   1.00   2.00   2.00   1.00   2.00   2.00   1.00   2.00									5.6			a transfer of the contract of	
Satd, Flow (perm)         3368         4807         3400         4848         1561         2972         3505         1546           Volume (vph)         2         108         1556         88         3         323         1084         151         1         72         231         367           Peak-hour factor, PHF         0.85         0.85         0.85         0.78         0.78         0.78         0.86         0.85         0.85         0.85         269         342         0.85         0.85         0.85         269         342         0.80         0.85         0.85         269         342         0.80         0.85         0.85         269         342         0.80         1.8         0.8         0.8         0.8         0.8         0.8         0.8         0.8         0.8         0.8         0.8         0.8													
Volume (vph)			100				1.0	1000					
Peak-hour factor, PHF   0.85   0.85   0.85   0.85   0.85   0.85   0.78   0.78   0.78   0.78   0.78   0.86		<b>7</b>			QQ	2				1			
Adj. Flow (vph)								100					
RTOR Reduction (vph)													
Lane Group Flow (vph)													
Confil. Peds. (#/hr) Heavy Vehicles (%) Prot Horry Prot Prot Prot Prot Prot Prot Prot Prot								-				_	
Heavy Vehicles (%)		·	,	1000						Ξ.			
Protected Phases   S   S   S   S   S   S   S   S   S	The state of the s	2%	4%	6%		2%	3%	7%		2%	18%	3%	
Protected Phases 5 5 2 1 1 1 6 6 8 3 3 8 8 Permitted Phases 6 6 8 Actuated Green, G (s) 11.3 38.7 15.0 42.4 42.4 17.8 25.8 25.8 Effective Green, g (s) 11.3 40.4 15.0 44.1 44.1 17.8 27.1 27.1 Actuated g/C Ratio 0.10 0.37 0.14 0.41 0.41 0.16 0.25 0.25 Clearance Time (s) 4.0 5.7 4.0 5.7 5.7 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 1.0 2.0 2.0 1.0 2.0 2.0 Lane Grp Cap (vph) 352 1798 472 1980 637 490 879 388 V/s Ratio Prot 0.04 c0.40 c0.12 0.29 0.03 0.08 V/s Ratio Perm 0.10 0.37 1.08 0.89 0.70 0.24 0.17 0.31 0.88 Uniform Delay, d1 45.0 33.8 45.7 26.5 21.0 38.8 32.8 38.9 Progression Factor 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0												· · · · · · · · · · · · · · · · · · ·	
Permitted Phases				2				6				8	
Actuated Green, G (s)									6				8
Effective Green, g (s) 11.3 40.4 15.0 44.1 44.1 17.8 27.1 27.1 Actuated g/C Ratio 0.10 0.37 0.14 0.41 0.41 0.41 0.16 0.25 0.25 Clearance Time (s) 4.0 5.7 4.0 5.7 5.7 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 1.0 2.0 1.0 2.0 2.0 1.0 2.0 2.0 Lane Grp Cap (vph) 352 1798 472 1980 637 490 879 388 V/s Ratio Prot 0.04 c0.40 c0.12 0.29 0.03 0.08 V/s Ratio Perm 0.10 c0.22 0.00 0.03 0.08 0.08 U/s Ratio Perm 0.10 c0.22 0.00 0.03 0.08 U/s Ratio Perm 0.10 c0.22 0.00 0.03 0.08 U/s Ratio Perm 0.10 c0.22 0.00 0.03 0.08 U/s Ratio Perm 0.10 c0.22 0.00 0.03 0.08 U/s Ratio Perm 0.10 c0.24 0.17 0.31 0.88 0.89 0.70 0.24 0.17 0.31 0.88 U/s Ratio Perm 0.10 0.00 0.00 0.00 0.00 0.00 0.00 0.0			11.3	38.7			15.0	42.4	42.4		17.8	25.8	25.8
Actuated g/C Ratio 0.10 0.37 0.14 0.41 0.41 0.41 0.16 0.25 0.25 Clearance Time (s) 4.0 5.7 4.0 5.7 5.7 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 1.0 2.0 2.0 2.0 1.0 2.0 2.0 2.0 1.0 2.0 2.0 2.0 1.0 2.0 2.0 2.0 1.0 2.0 2.0 2.0 1.0 2.0 2.0 2.0 1.0 2.0 2.0 2.0 2.0 1.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2			11.3	40.4			15.0	44.1	44.1		17.8	27.1	27.1
Vehicle Extension (s)         1.0         2.0         1.0         2.0         2.0         1.0         2.0         2.0           Lane Grp Cap (vph)         352         1798         472         1980         637         490         879         388           V/s Ratio Prot         0.04         c0.40         c0.12         0.29         0.03         0.08           V/s Ratio Perm         0.10         c0.22         0.03         0.08           V/s Ratio Perm         0.10         c0.22         0.03         0.08           V/s Ratio Perm         0.10         c0.12         0.29         0.01         0.03         0.08           V/s Ratio Perm         0.37         1.08         0.89         0.70         0.24         0.17         0.31         0.88           Uniform Delay, d1         45.0         33.8         45.7         26.5         21.0         38.8         32.8         38.9           Progression Factor         1.00	Actuated g/C Ratio		0.10	0.37			0.14	0.41					
Lane Grp Cap (vph)   352   1798   472   1980   637   490   879   388   389   399	Clearance Time (s)		4.0										
v/s Ratio Prot       0.04 c0.40       c0.12 0.29       0.03 0.08         v/s Ratio Perm       0.10       c0.22         v/c Ratio       0.37 1.08       0.89 0.70 0.24       0.17 0.31 0.88         Uniform Delay, d1       45.0 33.8 45.7 26.5 21.0 38.8 32.8 38.9         Progression Factor 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Vehicle Extension (s)		1.0			1. 4				n di wa			
v/s Ratio Perm       0.10       c0.22         v/c Ratio       0.37 1.08       0.89 0.70 0.24       0.17 0.31 0.88         Uniform Delay, d1       45.0 33.8 45.7 26.5 21.0 38.8 32.8 38.9         Progression Factor       1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	Lane Grp Cap (vph)								637				388
v/c Ratio       0.37       1.08       0.89       0.70       0.24       0.17       0.31       0.88         Uniform Delay, d1       45.0       33.8       45.7       26.5       21.0       38.8       32.8       38.9         Progression Factor       1.00<			0.04	c0.40			c0.12	0.29			0.03	0.08	
Uniform Delay, d1       45.0       33.8       45.7       26.5       21.0       38.8       32.8       38.9         Progression Factor       1.00								2					
Progression Factor         1.00 <td></td> <td></td> <td></td> <td>and the second of the second</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				and the second of the second									
Incremental Delay, d2													
Delay (s)         45.3         78.9         63.0         28.6         21.9         38.8         32.9         58.8           Level of Service         D         E         E         C         C         D         C         E           Approach Delay (s)         76.8         35.1         47.7         A7.7         A7.7 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>													
Level of Service D E E C C D C E Approach Delay (s) 76.8 35.1 47.7 Approach LOS E D D D  Intersection Summary  HCM Average Control Delay 54.7 HCM Level of Service D HCM Volume to Capacity ratio 0.97 Actuated Cycle Length (s) 108.0 Sum of lost time (s) 16.0 Intersection Capacity Utilization 83.9% ICU Level of Service E Analysis Period (min) 15													
Approach Delay (s) 76.8 35.1 47.7 Approach LOS E D D  Intersection Summary  HCM Average Control Delay 54.7 HCM Level of Service D  HCM Volume to Capacity ratio 0.97 Actuated Cycle Length (s) 108.0 Sum of lost time (s) 16.0 Intersection Capacity Utilization 83.9% ICU Level of Service E  Analysis Period (min) 15													
Approach LOS E D D  Intersection Summary  HCM Average Control Delay 54.7 HCM Level of Service D  HCM Volume to Capacity ratio 0.97  Actuated Cycle Length (s) 108.0 Sum of lost time (s) 16.0  Intersection Capacity Utilization 83.9% ICU Level of Service E  Analysis Period (min) 15			ט	_					· ·		ט		
Intersection Summary  HCM Average Control Delay 54.7 HCM Level of Service D  HCM Volume to Capacity ratio 0.97  Actuated Cycle Length (s) 108.0 Sum of lost time (s) 16.0  Intersection Capacity Utilization 83.9% ICU Level of Service E  Analysis Period (min) 15												- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
HCM Average Control Delay 54.7 HCM Level of Service D HCM Volume to Capacity ratio 0.97 Actuated Cycle Length (s) 108.0 Sum of lost time (s) 16.0 Intersection Capacity Utilization 83.9% ICU Level of Service E Analysis Period (min) 15	• •			-				_					
HCM Volume to Capacity ratio  Actuated Cycle Length (s)  Intersection Capacity Utilization  Analysis Period (min)  0.97  Sum of lost time (s)  ICU Level of Service  E		lov		E / 7		ICMLO	val of Sa	nvico					
Actuated Cycle Length (s) 108.0 Sum of lost time (s) 16.0 Intersection Capacity Utilization 83.9% ICU Level of Service E Analysis Period (min) 15						IOIVI LE	ACI OI OF	VICE		U			
Intersection Capacity Utilization 83.9% ICU Level of Service E Analysis Period (min) 15					·	ium of I	ost time	(e)		16.0			
Analysis Period (min) 15													
		LauUII			, i	SO LEV	CI OI OEI	VICC		<del>-</del>			
C. Chilical Lane Gloub	c Critical Lane Group			.5			1000				ar ye.		

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Movement	SBU	SBL	SBT	SBR	
Lan Configurations		<b>ሕ</b> ኘ	<b>个</b> 个	7	
Ideal Flow (vphpl)	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0	4.0	
Lane Util. Factor		0.97	0.95	1.00	
Frpb, ped/bikes		1.00	1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00	
Satd. Flow (prot)		3260	3374	1487	
Fit Permitted	100	0.95	1,00	1.00	
Satd. Flow (perm)		3260	3374	1487	
Volume (vph)	21	188	203	87	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	
Adj. Flow (vph)	25	227	245	105	grand and the state of the state of the state of
RTOR Reduction (vph)	0	0	0	87	
Lane Group Flow (vph)	0	252	245	18	
Confl. Peds. (#/hr)				2	
Heavy Vehicles (%)	2%	8%	7%	7%	
Turn Type	Prot	Prot		Perm	
Protected Phases	7	7	4		Carter to the first of the control o
Permitted Phases				4	
Actuated Green, G (s)		9.5	17.5	17.5	
Effective Green, g (s)		9.5	18.8	18.8	
Actuated g/C Ratio		0.09	0.17	0.17	
Clearance Time (s)		4.0	5.3	5.3	
Vehicle Extension (s)		1.0	2.0	2.0	
Lane Grp Cap (vph)	***********	287	587	259	<del>despite and the first of the section of the sectio</del>
v/s Ratio Prot		c0.08	0.07		
v/s Ratio Perm		2 2 3 3 3 3 3		0.01	
v/c Ratio		0.88	0.42	0.07	等。 12. 15. 14. 14. 14. 15. 15. 15. 15. 15. 15. 15. 15. 15. 15
Uniform Delay, d1		48.7	39.7	37.3	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		24.1	0.2	0.0	
Delay (s)		72.7	39.9	37.3	
Level of Service		Е	D	D	
Approach Delay (s)			53.2	·	
Approach LOS			D		orani kalendri di kalendri di Marajaran Kalendria di Kale
Intersection Summary					

	۶	<b>→</b>	*	•	-	*	1	†	~	<b>/</b>	<b>↓</b>	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		††††	7		<b>ተ</b> ተጉ				,	14.14		77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0					4.0		4.0
Lane Util. Factor		0.86	1.00	o Paga	0.91					0.97		0.88
Frpb, ped/bikes		1.00	1.00		1.00				2.0524	1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00					1.00		1.00
Frt	4.	1.00 1.00	0.85 1.00		0.97 1.00					1.00 0.95		0.85 1.00
Flt Protected Satd. Flow (prot)		6225	1509		4653					3433		2707
Fit Permitted		1.00	1.00		1.00	. 4				0.95		1.00
Satd. Flow (perm)		6225	1509		4653					3433		2707
Volume (vph)	0	1975	139	0	539	111	0	0	0	325	. 0	1022
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.86	0.86	0.86
Adj. Flow (vph)	0.00	2324	164	0.00	634	131	0.52	0.02	0.02	378	0.00	1188
RTOR Reduction (vph)	0	0	55	ō	34	0	Ö	ō	Ō	0	0	123
Lane Group Flow (vph)	ō	2324	109	0	731	0	0	0	0	378	0	1065
Confl. Peds. (#/hr)						2						
Heavy Vehicles (%)	2%	5%	7%	2%	8%	9%	2%	2%	2%	2%	2%	5%
Turn Type			Perm						С	ustom	С	ustom
Protected Phases		2			6					4		
Permitted Phases			2							4		4
Actuated Green, G (s)		34.0	34.0		34.0					38.6		38.6
Effective Green, g (s)		36.3	36.3		36.3					40.2		40.2
Actuated g/C Ratio		0.43	0.43		0.43					0.48		0.48
Clearance Time (s)		6.3	6.3		6.3			4 di		5.6		5.6
Vehicle Extension (s)		4.3	4.3	<u> </u>	4.9					3.4	<u> </u>	3.4
Lane Grp Cap (vph)		2674	648		1999					1633		1288
v/s Ratio Prot		c0.37			0.16					0.11		
v/s Ratio Perm		0.07	0.07	* 4	0.07			,				c0.39
v/c Ratio		0.87	0.17		0.37			r for the		0.23		0.83
Uniform Delay, d1		21.9	14.8		16.3					13.0		19.1
Progression Factor		1.00 3.5	1.00 0.2		1.00					1.00 0.1	3. 10° °	1.00 4.6
Incremental Delay, d2		25.4	15.0		16.5	4.11.				13.1		23.7
Delay (s) Level of Service		23,4 C	15.0 B		10.5 B					13.1 B		. 23.7 C
Approach Delay (s)	14.1	24.7			16.5	19.00		0.0			21.2	
Approach LOS		C			В			A			C	
		Ü	nas dinesal izrati kalkilla					, ,			•	80 k 60 SE A SE 60 SE 60 SE
Intersection Summary												
HCM Average Control Do			22.3	Н	CM Lev	vel of Se	rvice		C			
HCM Volume to Capacity			0.85	_			(-X				4.5	
Actuated Cycle Length (s			84.5			ost time			8.0			
Intersection Capacity Util	lization		55.7%	IC	U Leve	el of Ser	vice		В			
Analysis Period (min)	2 2 2		15									
c Critical Lane Group												

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Movement	EBL	EBT	EBA	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ተተሱ	7		ተተተ	7	ኻ	·	74			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0		4.0			
Lane Util. Factor		0.86	0.86		0.91	1.00	1.00		1.00			
Frpb, ped/bikes		1.00	1.00		1.00	0.98	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		0.92	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95	arti esti,	1.00			
Satd. Flow (prot)		4224	1286		4848	1492	1703		1455			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		4224	1286		4848	1492	1703		1455			
Volume (vph)	0	729	1571	0	541	684	109	0	93	0	0	0
Peak-hour factor, PHF	0.85	0.85	0.85	0.82	0.82	0.82	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	. 0	858	1848	. 0	660	834	125	0 - 1	107	0.02	0.52	0.32
RTOR Reduction (vph)	0	234	0	0	0	0	0	0	76	0	0	0
Lane Group Flow (vph)	0	1548	924	0	660	834	125	Ö	31	Ö	0	. 0
Confl. Peds. (#/hr)					: 777	2				U	. 0	U
Heavy Vehicles (%)	2%	6%	8%	2%	7%	6%	6%	2%	11%	2%	2%	2%
Turn Type			Free	<u></u>		Free	Prot		ustom		L /0	2 /0
Protected Phases		2		Tar.	6		8	`	Justom			
Permitted Phases			Free		Ŭ	Free	Ū		8			
Actuated Green, G (s)		38.7	61.1		38.7	61.1	12.3		12.3			
Effective Green, g (s)	•	39.6	61.1		39.6	61.1	13.5		13.5			
Actuated g/C Ratio		0.65	1.00		0.65	1.00	0.22		0.22			
Clearance Time (s)		4.9	11,00		4.9	1.00	5.2		5.2			
Vehicle Extension (s)		5.7			5.7		5.3		5.3		4	
Lane Grp Cap (vph)		2738	1286	····	3142	1492	376	<u> </u>		<u> </u>	<u> </u>	
v/s Ratio Prot		0.37	1200		0.14	1432	0.07		321			
v/s Ratio Perm		0.01	c0.72		0.14	0.56	0.07		0.00			
v/c Ratio		0.57	0.72		0.21	0.56	0.33		0.02	. 4		
Uniform Delay, d1		6.0	0.0		4.4	0.0		w Maria	0.10			
Progression Factor		1.00	1.00		1.00	1.00	20.0		19.0			
Incremental Delay, d2		0.5	3.5		0.1		1.00		1.00			
Delay (s)		6.5	3.5			1.5	1.2		0.3			
Level of Service		φ.5	3.5 A		4.5 A	1.5	21.2		19.3			
Approach Delay (s)		5.5				Α	C	20.0	В			
Approach LOS		Α.			2.8 A			20.3			0.0	
•		^			A	******************************		С			Α	
Intersection Summary												
HCM Average Control De	•		5.4	H	CM Lev	el of Se	rvice		Α			
HCM Volume to Capacity			0.72									
Actuated Cycle Length (s)			61.1		um of lo				0.0			
Intersection Capacity Utiliz	zation	4. 1. H	39.2%	IC	U Leve	of Serv	rice		Α			
Analysis Period (min)			15									
c Critical Lane Group			per profile									

72:	White	Lane	&	Hughes	Lane

	•	۶	<b>→</b>	•	F	•	<b>←</b>	•	₹ī	•	<b>†</b>	<i>&gt;</i>
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		ă	<b>ተ</b> ተጉ			ă	<b>ተ</b> ተጉ			Ä	<b>^</b>	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0			4.0	4.0	4.0
Lane Util. Factor		1.00	0.91			1.00	0.91			1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	1.00
Frt		1.00	0.97			1.00	0.99			1.00	1.00	0.85
FIt Protected		0.95	1.00			0.95	1.00			0.95	1.00	1.00
Satd. Flow (prot)		1739	4718			1754	4778			1753	3471	1389
Flt Permitted		0.95	1.00			0.95	1.00	I. King		0.95	1.00	1.00
Satd. Flow (perm)		1739	4718			1754	4778			1753	3471	1389
Volume (vph)	14	129	683	165	4	30	682	47	5	291	183	28
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.76	0.76	0.76	0.76	0.88	0.88	0.88	0.88
Adj. Flow (vph)	18	161	854	206	5	39	897	62	6	331	208	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	22
Lane Group Flow (vph)	0	179	1060	0	0	44	959	0	0	337	208	10
Confl. Peds. (#/hr)				2				. 3				5
Heavy Vehicles (%)	2%	4%	7%	4%	2%	3%	7%	13%	2%	3%	4%	14%
Turn Type	Prot	Prot			Prot	Prot			Prot	Prot		Perm
Protected Phases	5	5	2		1	1	6		3	3	8	
Permitted Phases												8
Actuated Green, G (s)		17.3	45.2			4.5	32.4			23.0	32.9	32.9
Effective Green, g (s)		17.3	46.5			4.5	33.7			23.0	34.2	34.2
Actuated g/C Ratio		0.16	0.43			0.04	0.31			0.21	0.32	0.32
Clearance Time (s)		4.0	5.3			4.0	5.3			4.0	5.3	5.3
Vehicle Extension (s)		1.0	2.0			1.0	2.0			1.0	2.0	2.0
Lane Grp Cap (vph)		279	2031			73	1491			373	1099	440
v/s Ratio Prot		c0.10	0.22			0.03	c0.20			c0.19	0.06	
v/s Ratio Perm												0.01
v/c Ratio		0.64	0.52			0.60	0.64			0.90	0.19	0.02
Uniform Delay, d1		42.4	22.6			50.9	32.0			41.4	26.8	25.4
Progression Factor		1.00	1.00			1.00	1.00			1.00	1.00	1.00
Incremental Delay, d2		3.7	1.0			9.2	2.1			23.9	0.0	0.0
Delay (s)		46.2	23.5			60.1	34.1			65.3	26.9	25.4
Level of Service		D	С	·		E	C			E	C	С
Approach Delay (s)		ing a fluid sele Historia di Sala	26.8				35.3				49.2	
Approach LOS			C				D				D	
Intersection Summary												
HCM Average Control D	elav		35.9	ŀ	ICM Lev	el of S	ervice		D			
HCM Volume to Capacit			0.71		JOIN LO	, 5, 5, 5,	UI VIUE		U			
Actuated Cycle Length (			108.0		Sum of lo	net time	(e)		16.0			
Intersection Capacity Ut			64.8%		CU Leve				10.0			
Analysis Period (min)	mzalion		15	. "	OU LEVE	or or oe	AICE		U			
c Critical Lane Group			13									
Contical Lane Group								Sept. 3				

	<b>/</b>	<b>+</b>	4	
Movement	SBL	SBT	SBR	
Lan Configurations	Ä	<b>↑</b> ↑		
Ideal Flow (vphpl)	1900	1900	1900	
Total Lost time (s)	4.0	4.0		
Lane Util. Factor	1.00	0.95		
Frpb, ped/bikes	1.00	0.99		erentin i se interiori de la vivilita de la vivilita de la vivilita de la vivilita de la vivilita de la vivili La companya de la vivilita de la vi
Flpb, ped/bikes	1.00	1.00		Contract Charles and Contract to the Contract Co
Frt	1.00	0.91		
FIt Protected	0.95	1.00	r Posta e	
Satd. Flow (prot)	1736	3131		
Flt Permitted	0.95	1.00	artist.	
Satd. Flow (perm)	1736	3131		
Volume (vph)	52	104	145	
Peak-hour factor, PHF	0.75	0.75	0.75	
Adj. Flow (vph)	69	139	193	
RTOR Reduction (vph)	0	0	0	
Lane Group Flow (vph)	69	332	0	
Confl. Peds. (#/hr)			3	
Heavy Vehicles (%)	4%	6%	3%	
Turn Type	Prot			
Protected Phases	7	4		
Permitted Phases				en de Maria de la companya de la co La companya de la co
Actuated Green, G (s)	6.8	16.7		
Effective Green, g (s)	6.8	18.0		
Actuated g/C Ratio	0.06	0.17		
Clearance Time (s)	4.0	5.3	,	
Vehicle Extension (s)	1.0	2.0		<u>er van 19 an Grogers</u> an Navilland op van de met de bestelle en de se
Lane Grp Cap (vph)	109	522		
v/s Ratio Prot	0.04	c0.11		
v/s Ratio Perm				and the common of the form the state of the state of the common of the c
v/c Ratio	0.63	0.64		Carrier and Carrier and Carrier and Carrier and Carrier and Carrier and Carrier and Carrier and Carrier and Car

Intersection Summary

Uniform Delay, d1

Level of Service

Approach LOS

Approach Delay (s)

Delay (s)

Progression Factor

Incremental Delay, d2

49.4

1.00

8.5

57.9

Ε

41.9

1.00

1.9

43.8

D

46.2

	۶		•	•	<b>←</b>	4	4	†	<i>&gt;</i>	1	1	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>€</b> Î	7	الوالع	fə	7	ħ	<b>^</b>	7		ተተሱ	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor		1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00		0.91	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	
Flt Protected		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		1719	1538	3335	1719	1440	1719	4940	1538		4927	
FIt Permitted		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		1719	1538	3335	1719	1440	1719	4940	1538		4927	
Volume (vph)	54	0	143	613	245	184	143	1079	61	0	1133	18
Peak-hour factor, PHF	0.58	0.58	0.58	0.75	0.75	0.75	0.94	0.94	0.94	0.99	0.99	0.99
Adj. Flow (vph)	93	0	247	817	327	245	152	1148	65	0	1144	18
RTOR Reduction (vph)	0	0	49	0	0	0	0	0	36	0	0	0
Lane Group Flow (vph)	0	93	198	817	327	245	152	1148	29	0	1162	Ö
Confl. Peds. (#/hr)						2			¥* **			2
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	Split		Perm	Split	******	Perm	Prot		Perm		······································	
Protected Phases	7	7	1000	8	8	4	5	2	300		6	er.
Permitted Phases			7			8			2			
Actuated Green, G (s)		21.9	21.9	30.3	30.3	30.3	14.7	51.6	51.6		33.2	
Effective Green, g (s)		22.8	22.8	31.2	31.2	31.2	14.4	52.9	52.9		34.5	
Actuated g/C Ratio		0.19	0.19	0.26	0.26	0.26	0.12	0.44	0.44		0.29	
Clearance Time (s)		4.9	4.9	4.9	4.9	4.9	3.7	5.3	5.3		5.3	
Vehicle Extension (s)		8.0	8.0	4.7	4.7	4.7	2.0	3.9	3.9		4.1	
Lane Grp Cap (vph)		330	295	875	451	378	208	2198	684		1430	
v/s Ratio Prot		0.05		c0.24	0.19	3,0	c0.09	0.23	s tajis		c0.24	
v/s Ratio Perm		0.00	c0.13			0.17	00.00	V	0.02		· · · · · · · · · · · · · · · · · · ·	
v/c Ratio		0.28	0.67	0.93	0.73	0.65	0.73	0.52	0.04	e e e e	0.81	
Uniform Delay, d1		41.1	44.6	42.8	39.9	39.0	50.4	23.9	18.7		39.2	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2		2.0	11.5	17.0	6.7	4.9	10.8	0.3	0.0		3.9	
Delay (s)		43.1	56.1	59.8	46.6	43.8	61.2	24.1	18.7		43.1	
Level of Service		D	F	F	10.0 D	.0.0 D	F	C	В		D	
Approach Delay (s)		52.5	_		53.9		. <u>-</u>	28.0			43.1	
Approach LOS		D.5			D			C			D	
		J			U			Ü			J	
Intersection Summary	- 1		46.5		IOV.	l			7			
HCM Average Control D			42.5	. F	IUM Le	vel of Se	ervice		D			
HCM Volume to Capacity			0.81		. د				400			
Actuated Cycle Length (s			118.9			ost time			16.0			
Intersection Capacity Uti	lization		66.3%	10	JU Lev	el of Ser	vice		С			
Analysis Period (min)	w		15								40	
c Critical Lane Group								ar in t	Jan Salah	4000		

<b>√</b>	•	<b>†</b>	<i>&gt;</i>	-	<b>↓</b>					
Movement WBL	. WBR	NBT	NBR	SBL	SBT					
Lane Configurations	ሾሾ	4111	7							
Ideal Flow (vphpl) 1900		1900	1900	1900	1900					
Total Lost time (s)	4.0	4.0	4.0							
Lane Util. Factor	0.88	0.81	0.81							
Frt	0.85	1.00	0.85							
Flt Protected	1.00	1.00	1.00							
Satd. Flow (prot)	2632	5919	1258						1 1 1 1 1 1 1 1 1	
Flt Permitted	1.00	1.00	1.00							
Satd. Flow (perm)	2632	5919	1258							
Volume (vph) 0	780	1188	23	0	0	5.11 Table 1				
Peak-hour factor, PHF 0.73	0.73	0.88	0.88	0.93	0.93					
Adj. Flow (vph) 0	1068	1350	26	0	0		1 10			
RTOR Reduction (vph) 0	25	0	0	0	Ö					
Lane Group Flow (vph) 0	1043	1350	26	0	0					
Heavy Vehicles (%) 8%	8%	4%	4%	2%	2%					
Turn Type	custom		Free							·
Protected Phases	8	2								
Permitted Phases			Free			1.5				
Actuated Green, G (s)	32.8	34.3	77.4			e e e e e e e e e				
Effective Green, g (s)	33.7	35.7	77.4			*				
Actuated g/C Ratio	0.44	0.46	1.00							
Clearance Time (s)	4.9	5.4	100							
Vehicle Extension (s)	3.2	5.7								
Lane Grp Cap (vph)	1146	2730	1258		1 4.					
v/s Ratio Prot	c0.40	c0.23								
v/s Ratio Perm			0.02							
v/c Ratio	0.91	0.49	0.02							
Uniform Delay, d1	20.4	14.6	0.0							
Progression Factor	1.00	1.00	1.00							
Incremental Delay, d2	10.8	0.4	0.0						į.	
Delay (s)	31.3	14.9	0.0							
Level of Service	С	В	Α							
Approach Delay (s) 31.3		14.6			0.0					
Approach LOS C		В			Α.					
Intersection Summary										100
HCM Average Control Delay		21.9	ŀ	ICM Lev	el of Se	rvice		3		
HCM Volume to Capacity ratio		0.70		• • ·				<b>-</b>	* * * *	
Actuated Cycle Length (s)		77.4	S	um of lo	st time	(s)	8.	0		
Intersection Capacity Utilization		51.3%		CU Level				A		
Analysis Period (min)		15		0.0	3. 301		. wa			
c Critical Lane Group		1, 1, 1								

Movement         EBL         EBT         EBR         WBL         WBT         WBR         NBL         NBR         SBL         SBT         SBR           Lane Configurations Ideal Flow (vphpl)         1900
Ideal Flow (vphpl)       1900       1
Ideal Flow (vphpl)       1900       1
Total Lost time (s)       4.0<
Lane Util. Factor       1.00       1.00       1.00       0.95       1.00       1.00       0.95         Frpb, ped/bikes       1.00       0.99       1.00       1.00       0.98       1.00       1.00         Flpb, ped/bikes       1.00       1.00       1.00       1.00       1.00       1.00
Flpb, ped/bikes 1.00 1.00 1.00 1.00 1.00 1.00
111 0.00 0.00 1.00 1.00 1.00
Flt Protected 1.00 1.00 0.95 1.00 1.00 0.95 1.00
Satd. Flow (prot) 1616 1649 1719 3438 1502 1719 3438
Flt Permitted 0.98 0.95 1.00 1.00 0.95 1.00
Satd. Flow (perm) 1594 1579 1719 3438 1502 1719 3438
Volume (vph) 9 49 206 27 106 180 108 577 14 16 14 0
Peak-hour factor, PHF 0.80 0.80 0.80 0.74 0.74 0.74 0.73 0.73 0.73 0.62 0.62 0.62
Adj. Flow (vph) 11 61 258 36 143 243 148 790 19 26 23 0
RTOR Reduction (vph) 0 0 0 0 0 0 0 10 0 0
Lane Group Flow (vph) 0 330 0 0 422 0 148 790 9 26 23 0
Confl. Peds. (#/hr) 2 2 2
Heavy Vehicles (%) 5% 5% 5% 5% 5% 5% 5% 5% 5% 5% 5%
Turn Type Perm Perm Prot Perm Prot
Protected Phases 4 8 5 2 1 6
Permitted Phases 4 8 2
Actuated Green, G (s) 24.7 24.7 7.2 19.7 19.7 2.2 14.7
Effective Green, g (s) 24.9 24.9 7.2 20.6 20.6 2.2 15.6
Actuated g/C Ratio 0.42 0.42 0.12 0.35 0.35 0.04 0.26
Clearance Time (s) 4.2 4.0 4.9 4.0 4.9
Vehicle Extension (s) 1.5 1.0 2.0 2.0 1.5 2.0
Lane Grp Cap (vph) 665 659 207 1186 518 63 898
v/s Ratio Prot c0.09 c0.23 0.02 0.01
v/s Ratio Perm 0.21 c0.27 0.01
v/c Ratio 0.50 0.64 0.71 0.67 0.02 0.41 0.03
Uniform Delay, d1 12.8 13.8 25.3 16.6 12.9 28.1 16.4
Progression Factor 1.00 1.00 1.00 1.00 1.00
Incremental Delay, d2 0.2 1.6 9.4 1.1 0.0 1.6 0.0
Delay (s) 13.0 15.4 34.6 17.7 12.9 29.7 16.4
Level of Service B B C B
Approach Delay (s) 13.0 15.4 20.2 23.5
Approach LOS B B C C
Intersection Summary
HCM Average Control Delay 17.8 HCM Level of Service B
HCM Volume to Capacity ratio 0.64
Actuated Cycle Length (s) 59.7 Sum of lost time (s) 8.0
Intersection Capacity Utilization 51.9% ICU Level of Service A
Analysis Period (min) 15
c Critical Lane Group

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Movement	EBL	EBT	EBR	WBL	WBT	WBR '	WBR2	NBL	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	1>		ሻ	₩		7	ኘሻ	<b>^</b> }		ካ	<del>一</del>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		0.95	0.91		0.95	0.97	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.92		1.00	0.96		0.85	1.00	0.96		1.00	0.97
Fit Protected	0.95	1.00		0.95	0.96		1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1626	1579		1633	1513		1440	3183	3288		1719	3316
Flt Permitted	0.95	1.00		0.95	0.96		1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1626	1579	·	1633	1513		1440	3183	3288		1719	3316
Volume (vph)	161	69	74	336	0	40	44	341	363	132	36	481
Peak-hour factor, PHF	0.88	0.88	0.88	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.79	0.79
Adj. Flow (vph)	183	78	84	369	0	44	48	371	395	143	46	609
RTOR Reduction (vph)	0	0	0	0	0	0	39	0	0	0	0	0
Lane Group Flow (vph)	183	162	0	227	186	0	9	371	538	0	46	733
Confl. Peds. (#/hr)				2			2			2		
Heavy Vehicles (%)	11%	11%	11%	5%	5%	10%	5%	10%	5%	5%	5%	5%
Turn Type	Split			Split			Perm	Prot			Prot	
Protected Phases	4	4		3	3			5	2		1	6
Permitted Phases							3					
Actuated Green, G (s)	18.4	18.4		21.0	21.0		21.0	16.4	47.2		4.7	34.0
Effective Green, g (s)	18.6	18.6		20.7	20.7		20.7	17.6	47.8		4.4	34.6
Actuated g/C Ratio	0.17	0.17		0.19	0.19		0.19	0.16	0.44		0.04	0.32
Clearance Time (s)	4.2	4.2		3.7	3.7		3.7	5.2	4.6		3.7	4.6
Vehicle Extension (s)	4.1	4.1		4.1	4.1		4.1	2.0	5.5		2.0	5.5
Lane Grp Cap (vph)	281	273		314	291		277	521	1462		70	1067
v/s Ratio Prot	c0.11	0.10		c0.14	0.12			c0.12	0.16		0.03	c0.22
v/s Ratio Perm							0.01				ar are e	· · · · · ·
v/c Ratio	0.65	0.59		0.72	0.64		0.03	0.71	0.37		0.66	0.69
Uniform Delay, d1	41.4	41.0		40.7	40.0		35.3	42.6	19.8		50.8	31.7
Progression Factor	1.00	1.00	* 1	1.00	1.00	100	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.0	4.1		8.6	5.2		0.1	3.8	0.4		15.7	2.6
Delay (s)	47.4	45.1		49.3	45.2		35.3	46.4	20.2		66.5	34.3
Level of Service	D	D		D	D		Ď	D	С		E	Ċ
Approach Delay (s)		46.3			46.2		1986		30.9		n (3 √ −	36.2
Approach LOS		D			D	2000			C		.21 v	D
Intersection Summary												
HCM Average Control De	elay		37.5	Н	CM Lev	el of Se	rvice		D			
HCM Volume to Capacity			0.69									
Actuated Cycle Length (s			107.5	Si	um of lo	st time	(s)		16.0			
Intersection Capacity Util			0.6%		U Level				В			
Analysis Period (min)		_	15			2. 5511						
c Critical Lane Group									44 1			



Movement SBR2	
Land Configurations	
Ideal Flow (vphpl) 1900	
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Fit Protected	
Satd. Flow (prot) Fit Permitted	
Satd. Flow (perm)	
	<del></del>
Volume (vph) 98 Peak-hour factor, PHF 0.79	
Adj. Flow (vph) 124	
RTOR Reduction (vph) 0	
Lane Group Flow (vph) 0	
Confl. Peds. (#/hr) 2	
Heavy Vehicles (%) 10%	
Turn Type	-
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s) Level of Service	
Approach Delay (s)	
Approach LOS	
Apploach ECC	
Intersection Summary	\$50000000

	١	<b>→</b>	*	•	<b>4</b> —	•	1	†	~	1	<b>↓</b>	1
Movement	EBL		EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	10		7	J.		7	¥	<b>1</b>	7	*1	<b>^</b> }	
Ideal Flow (vphpl)	1710	1710	1710	1615		1615	1900	1900	1900	1710	1710	1710
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00 1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes Frt	1.00	1.00 1.00	1.00 0.85	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Fit Protected	0.95	1.00	1.00	1.00 0.95	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Satd. Flow (prot)	1577	3008	1390	1447	2623	1.00 1251	0.95 1736	1.00	1.00	0.95	1.00	
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1810 1.00	1445	1477	3047	
Satd. Flow (perm)	1577	3008	1390	1447	2623	1251	1736	1810	1.00 1445	0.95 1477	1.00 3047	
Volume (vph)	134	668	70	375	450	237	91	416	169			- 04
Peak-hour factor, PHF	0.89	0.89	0.89	0.97	0.97	0.97	0.94	0.94	0.94	181 0.92	405 0.92	31
Adj. Flow (vph)	151	751	79	387	464	244	97	443	180	197	440	0.92
RTOR Reduction (vph)	0	0	32	0	0	72	0	0	54	0	440	34 0
Lane Group Flow (vph)	151	751	47	387	464	172	97	443	126	197	474	0
Confl. Peds. (#/hr)			2			2			2	107	7/7	2
Heavy Vehicles (%)	3%	8%	3%	6%	17%	7%	4%	5%	10%	10%	5%	10%
Turn Type	Prot		Perm	Prot	· · · · · · · · · · · · · · · · · · ·	Perm	Prot	···	Perm	Prot	9,0	10 70
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8	•	• •	
Actuated Green, G (s)	16.8	34.8	34.8	25.0	43.0	43.0	11.4	30.1	30.1	20.7	39.4	
Effective Green, g (s)	17.0	37.8	37.8	25.2	46.0	46.0	11.6	33.1	33.1	20.9	42.4	
Actuated g/C Ratio	0.13	0.28	0.28	0.19	0.35	0.35	0.09	0.25	0.25	0.16	0.32	
Clearance Time (s)	4.2	7.0	7.0	4.2	7.0	7.0	4.2	7.0	7.0	4.2	7.0	
Vehicle Extension (s)	2.0	6.0	6.0	2.0	5.3	5.3	2.0	3.1	3.1	2.0	2.4	
Lane Grp Cap (vph)	202	855	395	274	907	433	151	450	360	232	971	
v/s Ratio Prot	0.10	c0.25		c0.27	0.18		0.06	c0.24		c0.13	0.16	
v/s Ratio Perm		10 LL	0.03			0.14			0.09			
v/c Ratio	0.75	0.88	0.12	1.41	0.51	0.40	0.64	0.98	0.35	0.85	0.49	
Uniform Delay, d1	55.9	45.4	35.3	53.9	34.6	33.0	58.7	49.7	41.1	54.5	36.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.4	11.4	0.4	205.9	1.1	1.4	6.8	38.1	0.6	23.2	0.3	
Delay (s)	68.3 F	56.8	35.6	259.8	35.6	34.4	65.5	87.8	41.7	77.7	36.8	
Level of Service		E	D	F	D	С	. E	F	D	E	Đ	
Approach Delay (s) Approach LOS		56.9			114.6			73.3			48.8	
• •		Е			F			Ε			D	
Intersection Summary												
HCM Average Control De			76.9	H	CM Lev	el of Se	rvice		Е			
HCM Volume to Capacity			1.02								1	
Actuated Cycle Length (s			133.0		um of lo				16.0			
Intersection Capacity Util	ization	9	1.4%	IC	CU Leve	of Serv	rice		. F.			
Analysis Period (min)			15									
c Critical Lane Group												

4	٠	-	*	•	4	*	4	<b>†</b>	<i>&gt;</i>	<b>&gt;</b>	ļ
Movement El	U EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	Ä	<b>^</b>	7	ሻ	<b>^</b>	7	ሻ	<b>ተ</b> ጮ		44	<b>十</b>
Ideal Flow (vphpl) 19		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1,00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00
FIt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	3167	1559	1736	3252	1515	1736	3325		3303	3438
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	3167	1559	1736	3252	1515	1736 157	3325 643	101	3303 232	3438 671
	59 130	781	124	189	1226 0.95	155 0.95	0.87	0.87	161 0.87	0.98	0.98
Peak-hour factor, PHF 0.	79 0.79 75 165	0.79 989	0.79 157	0.95 1 <b>9</b> 9	1291	163	180	739	185	237	685
		909	28	0	0	50	0	739	105	23/	000
RTOR Reduction (vph)  Lane Group Flow (vph)	0 0 0 0 240	989	129	199	1291	114	180	924	0	237	685
Confl. Peds. (#/hr)	0 240	303	2	199	1231	2	100	3.E.T	2	207	. 000
	% 3%	14%	2%	4%	11%	5%	4%	5%	5%	6%	5%
Turn Type Pr			Perm	Prot		Perm	Prot	. 7% - 2		Prot	
Protected Phases	5 5	2	1 01111	1	6	1 01111	3	8		7	4
Permitted Phases	<b>y</b> 5	<del>-</del>	2	•	·	6		•			
Actuated Green, G (s)	20.0	59.5	59.5	19.8	60.1	60.1	17.5	26.3		14.2	23.0
Effective Green, g (s)	19.4	62.4	62.4	20.0	63.0	63.0	16.9	29.0	•	13.6	24.7
Actuated g/C Ratio	0.14	0.45	0.45	0.14	0.45	0.45	0.12	0.21		0.10	0.18
Clearance Time (s)	3.4	6.9	6.9	4.2	6.9	6.9	3.4	5.7		3.4	5.7
Vehicle Extension (s)	2.0	5.9	5.9	2.0	6.5	6.5	2.0	4.3		2.0	4.3
Lane Grp Cap (vph)	243	1412	695	248	1463	682	210	689		321	607
v/s Ratio Prot	c0.14	0.31		0.11	c0.40		c0.10	c0.28		0.07	0.20
v/s Ratio Perm			0.08			0.07					
v/c Ratio	0.99	0.70	0.19	0.80	0.88	0.17	0.86	1.34		0.74	1.13
Uniform Delay, d1	60.2	31.3	23.5	58.1	35.1	22.9	60.4	55.5		61.5	57.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	53.6	2.9	0.6	16.0	8.0	0.5	26.6	163.1		7.4	77.3
Delay (s)	113.8	34.2	24.0	74.1	43.1	23.4	86.9	218.6		68.9	135.0
Level of Service	F	С	С	E	D	С	F	F		E	F
Approach Delay (s)		46.8			44.9			197.2			110.7
Approach LOS		D			D			F			F
Intersection Summary											
HCM Average Control Delay		91.0	H	ICM Le	vel of S	ervice		F			
HCM Volume to Capacity rat	io	1.01									
Actuated Cycle Length (s)		140.0			ost time			15.0			
	Intersection Capacity Utilization 87.3% ICU Level of Service									4	
Analysis Period (min)		15									
c Critical Lane Group											



	00000000000000000000000000000000000000	
Movement	SBR	
Land Configurations	7	
Ideal Flow (vphpl)	1900	
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	1530	
Flt Permitted	1.00	
Satd. Flow (perm)	1530	
Volume (vph)	110	
Peak-hour factor, PHF	0.98	
Adj. Flow (vph)	112	
RTOR Reduction (vph)	34	
Lane Group Flow (vph)	78	
Confl. Peds. (#/hr)	2	
Heavy Vehicles (%)	4%	
Turn Type	Perm	
Protected Phases	i i	
Permitted Phases	4	
Actuated Green, G (s)	23.0	
Effective Green, g (s)	24.7	
Actuated g/C Ratio	0.18	
Clearance Time (s)	5.7	
Vehicle Extension (s)	4.3	
Lane Grp Cap (vph)	270	
v/s Ratio Prot		
v/s Ratio Perm	0.05	
v/c Ratio	0.29	
Uniform Delay, d1	50.0	
Progression Factor Incremental Delay, d2	1.00	
	0.9	
Delay (s) Level of Service	51.0 D	
	U	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co
Approach Delay (s) Approach LOS		
Intersection Summary		

	<b>≯</b>		•	€	<b>←</b>	4	4	†	<i>&gt;</i>	<b>&gt;</b>	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	74.54	<b>↑</b> \$		44	ተተ	7	ሻሻ	ተተተ	اً ا	ሾሾ	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	*0.90	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3335	3104		3367 0.95	3282	1530 1.00	3094 0.95	4940 1.00	1515 1.00	3303 0.95	4940 1.00	1514 1.00
Fit Permitted	0.95 3335	1.00 3104		3367	1.00 3282	1530	3094	4940	1515	3303	4940	1514
Satd. Flow (perm)	162	908	267	419	1345	218	346	1078	171	193	743	130
Volume (vph)	0.97	0.97	0.97	0.90	0.90	0.90	0.89	0.89	0.89	0.93	0.93	0.93
Peak-hour factor, PHF	167	936	275	466	1494	242	389	1211	192	208	799	140
Adj. Flow (vph) RTOR Reduction (vph)	0	930	2/3	400	0	47	0	0	57	0	0	42
Lane Group Flow (vph)	167	1211	. 0	466	1494	195	389	1211	135	208	799	98
Confl. Peds. (#/hr)	107	1211	2	400	1707	2	000		2		,	2
Heavy Vehicles (%)	5%	14%	5%	4%	10%	4%	5%	5%	5%	6%	5%	5%
Turn Type	Prot			Prot		Perm	Prot	·····	Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	- '					6		•	8			4
Actuated Green, G (s)	8.0	52.9		16.0	60.9	60.9	20.5	33.6	33.6	12.9	26.0	26.0
Effective Green, g (s)	9.2	55.9		17.2	63.9	63.9	21.7	36.8	36.8	14.1	29.2	29.2
Actuated g/C Ratio	0.07	0.40		0.12	0.46	0.46	0.15	0.26	0.26	0.10	0.21	0.21
Clearance Time (s)	5.2	7.0		5.2	7.0	7.0	5.2	7.2	7.2	5.2	7.2	7.2
Vehicle Extension (s)	2.0	4.6		2.0	4.9	4.9	2.0	6.0	6.0	2.0	6.0	6.0
Lane Grp Cap (vph)	219	1239		414	1498	698	480	1299	398	333	1030	316
v/s Ratio Prot	0.05	0.39		c0.14	c0.46		0.13	c0.25	ng distribution of the second	0.06	c0.16	
v/s Ratio Perm						0.13		2 22	0.09			0.06
v/c Ratio	0.76	0.98		1.13	1.00	0.28	0.81	0.93	0.34	0.62	0.78	0.31
Uniform Delay, d1	64.3	41.4		61.4	38.0	23.7	57.2	50.4	41.7	60.4	52.3	46.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.2	20.7		83.0	22.6	1.0	9.5	12.9	1.4	2.6	4.7	1.6
Delay (s)	77.5	62.1		144.4	60.6	24.7 C	66.7	63.2 E	43.2 D	63.0 E	57.0	48.5 D
Level of Service	ΕΕ	E 64.0		F	E 74.4	U	E	61.8	ע	<u>-</u>	E 57.1	ט
Approach Delay (s) Approach LOS		64.0 E			/4.4 E		4. 4.	61.6 E		· .	57.1 E	
			0.400.000.000.000.000.000	er meet karmeiderbas n	L		200 M. Car An Grand	-			<b>L</b>	ide dominade.
Intersection Summary												
HCM Average Control D			65.7	ŀ	ICM Le	vel of Se	ervice		E			
HCM Volume to Capacit			0.97			*						200
Actuated Cycle Length (			140.0			ost time			12.0			
Intersection Capacity Uti	lization		85.3%	- 10	CU Leve	el of Ser	vice		E			
Analysis Period (min)			15									
c Critical Lane Group			in the second									

	<b></b>	۶	<b>→</b>	•	•	+	1	1	†	/	1	+
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		Ä	<b>↑</b> ኈ		N.	<b>†</b> 1>			43-			€\$
Sign Control			Free			Free			Stop			Stop
Grade			0%			0%		٠	0%			0%
Volume (veh/h)	49	0	1710	18	42	2042	0	8	0	85	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.89	0.89	0.89	0.76	0.76	0.76	0.25	0.25
Hourly flow rate (vph) Pedestrians	0	0	1819	19	47	2294	0	. 11	0	112	0	0
									2			2
Lane Width (ft)									12.0			12.0
Walking Speed (ft/s) Percent Blockage									4.0			4.0
Right turn flare (veh)		1							0			0
Median type	4 .											
Median storage veh)									Raised			Raised
Upstream signal (ft)									1			1
pX, platoon unblocked	0.00											
vC, conflicting volume	0.00	2296			1001							
vC1, stage 1 conf vol	U	2290			1821			3072	4221	921	3412	4212
vC2, stage 2 conf vol								1831	1831		2391	2391
vCu, unblocked vol	0	2296			1821		* 12	1242	2391		1021	1821
tC, single (s)	0.0	4.5			4.2			3072	4221	921	3412	4212
tC, 2 stage (s)	0.0	7.5			4.2			*7.6	6.5	7.0	7.5	6.5
tF (s)	0.0	2.4			2.2			6.6	5.5		6.5	5.5
p0 queue free %	0.0	100			85		* -	3.9	4.0	3.3	3.5	4.0
cM capacity (veh/h)	ŏ	171			320			77	100	58	100	100
Direction, Lane #	EB 1		F0.4				A L	47	36	266	21	31
Volume Total	0	EB 2	<b>EB 3</b> 626	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Left	0	0	020	47	1530	765	122	0				
Volume Right	0	0	19		0	0	11	0				
cSH	1700	1700	1700	0 320		1700	112	0				
Volume to Capacity	0.00	0.71	0.37	0.15	1700	1700	190	1700				
Queue Length 95th (ft)	0.00	0.71	0.37	13	0.90 0	0.45	0.65	0.00	1000			
Control Delay (s)	0.0	0.0	0.0	18.2	0.0	0	94	0				
Lane LOS	0.0	0.0	0.0	10.2 C	0.0	0.0	53.2	0.0				
Approach Delay (s)	0.0			0.4			F	Α				
Approach LOS	Ų.0			0.4			53.2 F	0.0 A				
Intersection Summary												
Average Delay			1.7									
Intersection Capacity Ut	ilization	. 6	88.8%	• 10	CU Leve	l of Sen	/ice		С			
Analysis Period (min)			15						, 0			

<sup>\*</sup> User Entered Value



Movement	SBR
Lant Configurations	
Sign Control	
Grade	en en grande de la companya del companya de la companya del companya de la compan
Volume (veh/h)	er of the straight of the control of the straight of the strai
Peak Hour Factor Hourly flow rate (vph)	
Pedestrians	
Lane Width (ft)	
Walking Speed (ft/s)	
Percent Blockage	
Right turn flare (veh)	
Median type	
Median storage veh)	en en en en en en en en en en en en en e
Upstream signal (ft)	
pX, platoon unblocked vC, conflicting volume	<b>1149</b> . 11.10 (2.10) (1
vC1, stage 1 conf vol	and the state of the state of the state of the state of the state of the state of the state of the state of the
vC2, stage 2 conf vol	
vCu, unblocked vol	1149
tC, single (s)	<ul> <li>6.9 (1) Matter the transfer of the control of the con</li></ul>
tC, 2 stage (s)	
tF (s)	
p0 queue free %	
cM capacity (veh/h)	
Direction, Lane #	

	٠	<b>→</b>	*	•	<b>4</b> —	4	1	†	<i>*</i>	1	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ja.	<b>ቀቀ</b> ን		أبوأبو	ተተተ	7	ሻ	7>		<u></u> ካ	ની	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		0.97	*0.87	1.00	1.00	1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1626	4836		3400	4678	1544	1626	1585		1665	1665	1408
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1626	4836		3400	4678	1544	1626	1585		1665	1665	1408
Volume (vph)	56	1832	26	298	1833	440	18	8	133	342	0	68
Peak-hour factor, PHF	0.86	0.86	0.86	0.89	0.89	0.89	0.75	0.75	0.75	0.91	0.91	0.91
Adj. Flow (vph)	65	2130	30	335	2060	494	24	11	177	376	0	75
RTOR Reduction (vph)	0	0	0	0	0	150	0	0	0	0	0	31
Lane Group Flow (vph)	65	2160	0	335	2060	344	24	188	0	188	188	44
Confl. Peds. (#/hr)			2			2					. 577	2
Heavy Vehicles (%)	11%	7%	8%	3%	6%	3%	11%	2%	3%	3%	2%	13%
Turn Type	Prot			Prot		Perm	Split		<del></del>	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases		,				6						4
Actuated Green, G (s)	8.0	75.0		14.0	81.0	81.0	14.0	14.0		18.1	18.1	18.1
Effective Green, g (s)	8.2	77.3		14.2	83.3	83.3	14.2	14.2		18.3	18.3	18.3
Actuated g/C Ratio	0.06	0.55		0.10	0.59	0.59	0.10	0.10		0.13	0.13	0.13
Clearance Time (s)	4.2	6.3		4.2	6.3	6.3	4.2	4.2		4.2	4.2	4.2
Vehicle Extension (s)	2.0	6.4		2.0	5.5	5.5	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	95	2670		345	2783	919	165	161		218	218	184
v/s Ratio Prot	0.04	c0.45		c0.10	0.44		0.01	c0.12		c0.11	0.11	10-1
v/s Ratio Perm						0.22				,,,,		0.03
v/c Ratio	0.68	0.81		0.97	0.74	0.37	0.15	1.17		0.86	0.86	0.24
Uniform Delay, d1	64.6	25.4		62.7	20.5	14.8	57.4	62.9		59.6	59.6	54.6
Progression Factor	1.00	1.00		0.86	0.94	0.81	1.00	1,00		1.00	1.00	1.00
Incremental Delay, d2	15.0	2.8		26.7	0.9	0.6	0.1	123.2		27.0	27.0	0.2
Delay (s)	79.6	28.1		80.8	20.1	12.5	57.5	186.1		86.6	86.6	54.8
Level of Service	E	С		F	С	В	E	F		F	F	D
Approach Delay (s)		29.6			25.9			171.5			81.3	
Approach LOS		С			C			F	7.4		F	
Intersection Summary												
HCM Average Control De	elay		37.0	Н	CM Lev	el of Se	rvice		D			
HCM Volume to Capacity		es Meyer are	0.88		0.	0.0.00	11100		U			
Actuated Cycle Length (s			140.0	Si	um of Ic	st time	(s)		16.0	x 3 . 16 . 7		
Intersection Capacity Util			6.7%			of Sen			10.0 D			
Analysis Period (min)			15			, ,, 0011			٠, ٠			
c Critical Lane Group			<del>-</del>	. Property								
a vas		t that will be										

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ተተሱ	7		<u> ተ</u>	7			-	٦	43	
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0	4.0	
Lane Util. Factor		0.86	0.86	1.	0.91	1.00				0.95	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.98				1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	
Frt		0.95	0.85		1.00	0.85				1.00	0.85	
Flt Protected		1.00	1.00		1.00	1.00		¥		0.95	1,00	
Satd. Flow (prot)		4404	1282		4940	1492				1491	1447	
Flt Permitted		1.00	1.00		1.00	1.00				0.95	1.00	
Satd. Flow (perm)		4404	1282		4940	1492				1491	1447	
Volume (vph)	. 0	1116	1191	0	2157	1267	0	0	. 0	219	0	414
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.25	0.25	0.25	0.86	0.86	0.86
Adj. Flow (vph)	0	1200	1281	0	2397	1408	0	0	0	255	0	481
RTOR Reduction (vph)	0	69	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0.	1771	641	0	2397	1408	0	0	0	255	481	0
Confl. Peds. (#/hr)			2			2						
Heavy Vehicles (%)	2%	4%	7%	2%	5%	6%	2%	2%	2%	15%	2%	6%
Turn Type		<u>,,, i,                                </u>	Free			Free				Split		
Protected Phases		2			6					4	4	
Permitted Phases			Free			Free						
Actuated Green, G (s)		108.5	140.0		108.5	140.0				23.0	23.0	
Effective Green, g (s)		108.9	140.0		108.9	140.0				23.1	23.1	
Actuated g/C Ratio		0.78	1.00		0.78	1.00				0.17	0.17	
Clearance Time (s)		4.4			4.4					4.1	4.1	
Vehicle Extension (s)		4.5			4.5					4.1	4.1	
Lane Grp Cap (vph)	<del>''</del>	3426	1282	·····	3843	1492	<del></del>			246	239	
v/s Ratio Prot		0.40	1.202		0.49				ed selection	0.17	c0.33	
v/s Ratio Perm		0.70	0.50		0.10	c0.94		19 1	v ž.			
v/c Ratio		0.52	0.50		0.62	0.94			12 25 12	1.04	2.01	
Uniform Delay, d1		5.8	0.0		6.7	0.0			14	58.5	58.5	
Progression Factor		0.61	1.00		1.02	1.00				1.00	1.00	
Incremental Delay, d2		0.3	0.7		0.1	1.7				67.2	470.2	
Delay (s)		3.8	0.7		6.9	1.7				125.7	528.6	
Level of Service		A	Α.		Α.	Α				F	F	
Approach Delay (s)		3.0		12.54	5.0			0.0		eng İst	389.0	
Approach LOS		A			Α.	* "		Α.			F	
	2000 A. J. 2000 A. CONT. CO. CO. CO. CO.		DESCRIPTION AND A TO LOTE M		, ,			, ,				
Intersection Summary												
HCM Average Control D	elay		44.5	, F	HCM Le	vel of Se	ervice		D			
HCM Volume to Capacit	y ratio		1.13									
Actuated Cycle Length (			140.0			ost time			4.0		•	
Intersection Capacity Uti	lization		67.1%		CU Lev	el of Sei	rvice		C			
Analysis Period (min)			15									
c Critical Lane Group												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	ተተተ			ተተተ	7	ሻሻ		7	77		7
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	*0.90	*0.85			0.91	1.00	0.97		1.00	0.97		1.00
Frt	1.00	1.00			1.00	0.85	1.00		0.85	1.00	** .	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	2927	4704			5036	1538	3213		1568	3400		1509
FIt Permitted	0.95	1.00	4 1 1 1 1 1		1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	2927	4704			5036	1538	3213		1568	3400		1509
Volume (vph)	435	900	0	0	1828	501	1043	0	717	428	0	553
Peak-hour factor, PHF	0.84	0.84	0.84	0.86	0.86	0.86	0.86	0.86	0.86	0.84	0.84	0.84
Adj. Flow (vph)	518	1071	0	0	2126	583	1213	0	834	510	0	658
RTOR Reduction (vph)	0	0	0	0	0	2	0	0	0	0	0	1
Lane Group Flow (vph)	518	1071	0	0	2126	581	1213	. 0	834	510	0	657
Heavy Vehicles (%)	11%	3%	2%	2%	3%	5%	9%	2%	3%	3%	2%	7%
Turn Type	Prot					pm+ov	Prot	- 11 T	Free	Prot		ustom
Protected Phases	5	2		**	6	4	8			4	. •	57
Permitted Phases						6			Free			• •
Actuated Green, G (s)	20.0	74.0			48.8	104.0	35.0		140.0	55.2		36.0
Effective Green, g (s)	21.2	74.9			49.7	106.8	36.9		140.0	57.1		37.4
Actuated g/C Ratio	0.15	0.54			0.36	0.76	0.26		1.00	0.41		0.27
Clearance Time (s)	5.2	4.9		**	4.9	5.9	5.9	£ *		5.9		0.2.
Vehicle Extension (s)	2.0	4.5			4.5	4.5	3.3			4.5		
Lane Grp Cap (vph)	443	2517			1788	1217	847		1568	1387		403
v/s Ratio Prot	0.18	0.23			c0.42	0.19	c0.38			0.15		c0.44
v/s Ratio Perm						0.18			0.53			
v/c Ratio	1.17	0.43			1.19	0.48	1.43		0.53	0.37		1.63
Uniform Delay, d1	59.4	19.6			45.1	6.2	51.5		0.0	28.9		51.3
Progression Factor	0.94	1.01			1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	94.9	0.4			91.0	0.5	201.3		1.3	0.3	4.00	295.0
Delay (s)	151.1	20.2			136.1	6.7	252.8		1.3	29.2		346.3
Level of Service	F	C			F	Α	F ⋅		Α	С		F
Approach Delay (s)		62.8			108.3			150.3			207.8	•
Approach LOS		E			F			F			F	
Intersection Summary												
HCM Average Control De	elay		125.6	Н	CM Lev	el of Se			F		77	
<b>HCM Volume to Capacity</b>			1.39	- •					•			
Actuated Cycle Length (s			140.0	S	um of le	ost time	(s)		16.0			
Intersection Capacity Util			9.3%			el of Ser			Н		De la Survicio	
Analysis Period (min)			15				<del>-</del>					
c Critical Lane Group											Turke ter	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	•	<b>^</b> ^	7	1979	<b>4</b> \$		ሻ	<del>।</del>	7		43-	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	*0.80		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (prot)	1770	3505	1558	3433	2948		1681	1692	1571		1724	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	artino de la compansión de la compansión de la compansión de la compansión de la compansión de la compansión d La compansión de la compa	0.98	
Satd. Flow (perm)	1770	3505	1558	3433	2948		1681	1692	1571		1724	
Volume (vph)	35	1573	437	571	1668	- 11	628	26	510	25	18	33
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.96	0.96	0.96	0.68	0.68	0.68
Adj. Flow (vph)	38	1710	475	595	1738	11	654	27	531	37	26	49
RTOR Reduction (vph)	0	0	97	0	0	0	0	0	107	0	0	Ö
Lane Group Flow (vph)	38	1710	378	595	1749	0	332	349	424	Ö	112	0
Confl. Peds. (#/hr)		1710	2	000	1740	2	UUL	0.0	2	2	· · · <del>-</del>	·
Heavy Vehicles (%)	2%	3%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	- 0 /0	Perm	Prot	. 0.70		Split		om+ov	Split		
Protected Phases	5	2	I CIIII	1 101	6		8 8	8	1	7	7	
Permitted Phases	3	2	2	7 <b>!</b> .	.0,		Ų	·	8	·		
Actuated Green, G (s)	17.6	69.6	69.6	25.0	79.0		30.0	30.0	55.0	2 3	13.4	
Effective Green, g (s)	17.8	71.5	71.5	26.2	79.9		31.9	31.9	58.1		13.8	
Actuated g/C Ratio	0.11	0.45	0.45	0.16	0.50		0.20	0.20	0.36		0.09	
	4.2	5.9	5.9	5.2	4.9		5.9	5.9	5.2		4.4	
Clearance Time (s)	2.0	5. <del>3</del> 5.7	5.7	2.0	5.7		5.6	5.6	2.0		1.0	
Vehicle Extension (s)		1572	699	564	1478		336	339	612		149	
Lane Grp Cap (vph)	198		099				0.20		0.11			
v/s Ratio Prot	0.02	c0.49	0.04	0.17	c0.59		0.20	c0.21			c0.06	
v/s Ratio Perm	0.40	1.00	0.24	1.05	1,18	57	0.00	1.03	0.16		0.75	
v/c Ratio	0.19	1.09	0.54	1.05			0.99	and the second second	0.69		0.75	
Uniform Delay, d1	64.3	44.0	32.0	66.6	39.8		63.6	63.8	43.1		71.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.2	50.6	3.0	53.2	89.7		45.8	56.7	2.7		17.1	
Delay (s)	64.4	94.5	35.0	119.8	129.5		109.4	120.4	45.8		88.2	
Level of Service	E	F	D	F	F		F	F ∴ 04.7:	D		F	
Approach Delay (s)		81.3			127.0		150	84.7	2.28 Km		88.2	
Approach LOS		F			F			-			F	
Intersection Summary												
HCM Average Control De	elay		100.3	F	HCM Lev	vel of Se	ervice		F			
HCM Volume to Capacity	y ratio		1.08									
Actuated Cycle Length (s			159.4			ost time			12.0			
Intersection Capacity Uti	lization		94.9%	[	CU Leve	el of Ser	vice		F			
Analysis Period (min)			15									
c Critical Lane Group												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL.	SBT	SBR
Lane Configurations	*	<b>ት</b> ጐ		ħ,	<b>†</b>	7	ሻ	<b>^</b>	7	74	<b></b>	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3344		1770	1863	1562	1770	3539	1563	1770	1863	1547
Fit Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3344		1770	1863	1562	1770	3539	1563	1770	1863	1547
Volume (vph)	24	140	67	52	188	172	93	430	61	109	400	49
Peak-hour factor, PHF	0.88	0.88	0.88	0.93	0.93	0.93	0.94	0.94	0.94	0.89	0.89	0.89
Adj. Flow (vph)	27	159	76	56	202	185	99	457	65	122	449	55
RTOR Reduction (vph)	0	0	0	0	0	37	0	0	45	0	0	21
Lane Group Flow (vph)	27	235	. 0	56	202	148	99	457	20	122	449	34
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		-	Prot		Perm	Prot		Perm	Prot	- <del> </del>	Perm
Protected Phases	5	2		1	6		3	8	27455	7	4	
Permitted Phases						6			8			. 4
Actuated Green, G (s)	1.7	10.5		3.2	12.0	12.0	4.1	14.0	14.0	4.6	14.5	14.5
Effective Green, g (s)	1.7	12.5		3.2	14.0	14.0	4.1	16.0	16.0	4.6	16.5	16.5
Actuated g/C Ratio	0.03	0.24	**	0.06	0.27	0.27	0.08	0.31	0.31	0.09	0.32	0.32
Clearance Time (s)	4.0	6.0		4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lane Grp Cap (vph)	58	799		108	499	418	139	1083	478	156	588	488
v/s Ratio Prot	0.02	0.07		c0.03	c0.11		0.06	0.13		c0.07	c0.24	700
v/s Ratio Perm						0.09	0.00		0.01	00.07	00.24	0.02
v/c Ratio	0.47	0.29		0.52	0.40	0.35	0.71	0.42	0.04	0.78	0.76	0.02
Uniform Delay, d1	24.9	16.3		23.8	15.7	15.5	23.5	14.5	12.8	23.4	16.1	12.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.1		1.7	0.2	0.2	13.4	0.1	0.0	20.5	5.3	0.0
Delay (s)	27.0	16.4		25.5	15.9	15.7	36.9	14.6	12.8	43.9	21.4	12.6
Level of Service	С	В		C	В	В	D	В	12.0 B	45.5 D	21.4 C	12.0 B
Approach Delay (s)		17.5		_	17.0			17.9		U	25.0	Ь
Approach LOS		В			В			В			23.0 C	
Intersection Summary												
HCM Average Control Del	lay		19.9	Н	CM Lev	el of Se	rvice	1,-0,-1	В			
<b>HCM Volume to Capacity</b>			0.53				,,,,,,,					
Actuated Cycle Length (s)			52.3	s	um of lo	st time	(s)		8.0			
Intersection Capacity Utiliz		5	5.0%		CU Leve				Α			
Analysis Period (min)			15									
c Critical Lane Group									2.7			

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBA	SBL	SBT	SBR
Lane Configurations	ካ	ተተ <sub>ጮ</sub>		ነ	ተተተ	7	ሻሻ	<b>4</b>	7	ሻሻ	<b>个</b> 个	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5058		1770	5085	1547	3433	1863	1562	3433	3539	1562
Fit Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5058		1770	5085	1547	3433	1863	1562	3433	3539	1562
Volume (vph)	112	642	22	172	710	485	30	59	81	434	59	136
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.75	0.75	0.75	0.80	0.80	0.80
Adj. Flow (vph)	119	683	23	179	740	505	40	79	108	542	74	170
RTOR Reduction (vph)	0	0	0	0	0	101	0	0	94	0	0	34
Lane Group Flow (vph)	119	706	0	179	740	404	40	79	14	542	74	136
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot	. 1	Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases				* * * .		6			8			4
Actuated Green, G (s)	7.5	25.2		9.4	27.1	27.1	2.5	8.3	8.3	17.2	23.0	23.0
Effective Green, g (s)	8.0	27.2	1.1	9.9	29.1	29.1	3.0	10.3	10.3	17.7	25.0	25.0
Actuated g/C Ratio	0.10	0.34		0.12	0.36	0.36	0.04	0.13	0.13	0.22	0.31	0.31
Clearance Time (s)	4.5	6.0		4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.5	2.0	2.0
Lane Grp Cap (vph)	175	1696		216	1825	555	127	237	198	749	1091	482
v/s Ratio Prot	0.07	0.14		c0.10	0.15		0.01	0.04		c0.16	0.02	
v/s Ratio Perm	s v á ty			18.50		c0.26			0.01		Name of	c0.09
v/c Ratio	0.68	0.42		0.83	0.41	0.73	0.31	0.33	0.07	0.72	0.07	0.28
Uniform Delay, d1	35.3	20.8		34.8	19.5	22.6	38.0	32.3	31.2	29.4	19.8	21.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.3	0.1		21.3	0.1	4.0	0.5	0.3	0.1	3.0	0.0	0.1
Delay (s)	43.7	20.9		56.1	19.6	26.6	38.6	32.6	31.2	32.4	19.8	21.4
Level of Service	D	С	14 14	E	В	С	D	С	С	С	В	C
Approach Delay (s)		24.2			26.6			33.0			28.8	
Approach LOS		C			C			С			С	
Intersection Summary							,					
HCM Average Control Do	olav		27.0	<u> </u>	ICM Le	vel of Se	ervice	7.00	С			
HCM Volume to Capacity			0.62	******* <b>*</b>	IOIVI EC	voi oi oc	) VIOC		<u> </u>			
Actuated Cycle Length (s			81.1	S	ium of l	ost time	<b>(s)</b>		8.0			
Intersection Capacity Util			52.5%			el of Ser			Α.			
Analysis Period (min)	neallOII		15		CO LOV	J. 01 001	1,00		24 2			
c Critical Lane Group			10									
C Offical Laffe Group												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	<b>^</b>	77	ابرابر	ተተ	7	لولو	ተተተ	7	ሻሻ	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt Flt Protected	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	2748	3433	3539	1562	3433	5085	1562	3433	5085	1562
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	2748	3433	3539	1562	3433	5085	1562	3433	5085	1562
Volume (vph)	112	324	114	176	638	225	230	992	151	240	808	149
Peak-hour factor, PHF	0.86	0.86	0.86	0.95	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	130	377	133	185	672	237	256	1102	168	253	851	157
RTOR Reduction (vph)	0	0	26	0	0	47	0	. 0	33	0	0	32
Lane Group Flow (vph)	130	377	107	185	672	190	256	1102	135	253	851	125
Confl. Peds. (#/hr)			2	· ·		2			2			2
Turn Type	Prot		Perm	Prot		Perm	Prot	oriation of the	Perm	Prot		Perm
Protected Phases	5	2		. 1	6		3	8		7	4	
Permitted Phases		40.4	2			6	j.		8			4
Actuated Green, G (s)	5.5	18.4	18.4	6.7	19.6	19.6	10.0	21.7	21.7	9.8	21.5	21.5
Effective Green, g (s)	5.5	20.4	20.4	6.7	21.6	21.6	10.0	23.7	23.7	9.8	23.5	23.5
Actuated g/C Ratio	0.07	0.27	0.27	0.09	0.28	0.28	0.13	0.31	0.31	0.13	0.31	0.31
Clearance Time (s) Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
	1.0	2.0	2.0	1.5	2.0	2.0	1.5	2.0	2.0	1.0	2.0	2.0
Lane Grp Cap (vph) v/s Ratio Prot	246	943	732	300	998	440	448	1573	483	439	1560	479
	0.04	0.11	0.04	c0.05	c0.19		c0.07	c0.22		0.07	0.17	
v/s Ratio Perm	0.50	0.40	0.04		·	0.12	<u></u>		0.09			0.08
v/c Ratio	0.53	0.40	0.15	0.62	0.67	0.43	0.57	0.70	0.28	0.58	0.55	0.26
Uniform Delay, d1	34.3	23.1	21.4	33.7	24.4	22.5	31.3	23.3	20.0	31.4	22.1	20.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2 Delay (s)	0.9 35.2	0.1	0.0	2.6	1.4	0.2	1.1	1.2	0.1	, 1.1	0.2	0.1
Level of Service	35.2 D	23.2	21.5	36.4	25.8	22.7	32.4	24.5	20.1	32.6	22.3	20.1
	D	C 25.3	С	D	C	C		С	С	C	С	C
Approach Delay (s) Approach LOS		25.3 C			26.9 C			25.3			24.1	
		Ų			U			С			С	
Intersection Summary	1											
HCM Volume to Consoling			25.4	H	CM Lev	el of Se	rvice		С	el Minus III. None in the		· · · · · · · · · · · · · · · · · · ·
HCM Volume to Capacity			0.60	_								
Actuated Cycle Length (s			76.6		um of lo				8.0		4 6 1 1	
Intersection Capacity Utili	zation	6	2.7%	IC	U Leve	of Sen	vice		В			
Analysis Period (min)			15					\$ 1 grant				
c Critical Lane Group												

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Movement	ÉBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	75	ተተተ	7	ابرابر	ተተተ	7.5	44	<b>^</b>	7	14.54	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3335	5036	1561	3433	5085	1561	3433	5085	1561	3433	5036	1561
FIt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3335	5036	1561	3433	5085	1561	3433	5085	1561	3433	5036	1561
Volume (vph)	137	752	151	403	1065	389	285	945	262	159	663	192
Peak-hour factor, PHF	0.84	0.84	0.84	0.87	0.87	0.87	0.83	0.83	0.83	0.90	0.90	0.90
Adj. Flow (vph)	163	895	180	463	1224	447	343	1139	316	177	737	213
RTOR Reduction (vph)	0	0	141	0	0	90	0	0	126	0	0	107
Lane Group Flow (vph)	163	895	39	463	1224	357	343	1139	190	177	737	106
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	5%	3%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	-5	2		1	6	·* :	3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	7.4	21.6	21.6	22.0	36.2	36.2	10.9	34.4	34.4	9.0	32.5	32.5
Effective Green, g (s)	7.9	23.6	23.6	22.5	38.2	38.2	11.4	36.4	36.4	9.5	34.5	34.5
Actuated g/C Ratio	0.07	0.22	0.22	0.21	0.35	0.35	0.11	0.34	0.34	0.09	0.32	0.32
Clearance Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	1.0	2.0	2.0	1,0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lane Grp Cap (vph)	244	1100	341	715	1799	552	362	1714	526	302	1609	499
v/s Ratio Prot	0.05	c0.18		0.13	c0.24	Williams	c0.10	c0.22		c0.05	0.15	
v/s Ratio Perm		is vi	0.03	and the first		0.23			0.12			0.07
v/c Ratio	0.67	0.81	0.12	0.65	0.68	0.65	0.95	0.66	0.36	0.59	0.46	0.21
Uniform Delay, d1	48.8	40.1	33.8	39.1	29.7	29.2	48.0	30.6	27.0	47.4	29.3	26.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.3	6.6	0.7	4.5	2.1	5.7	33.3	2.1	1.9	1.9	0.9	1.0
Delay (s)	54.0	46.7	34.5	43.6	31.8	35.0	81.3	32.6	28.9	49.2	30.2	27.8
Level of Service	D	D	C	D	С	С	F	С	C	Ď	C	Ć
Approach Delay (s)		45.9			35.0			41.3			32.8	
Approach LOS		D			D			D			С	
Intersection Summary												
HCM Average Control Do	elav		38.5		ICM Le	vel of S	ervice		D			
HCM Volume to Capacity			0.73	s in the					1949 T. 1		111	
Actuated Cycle Length (s			108.0	Ç	Sum of I	ost time	(s)		16.0			
Intersection Capacity Uti	•		78.0%		CU Lev				D			
Analysis Period (min)			15	•					. 7.			
c Critical Lane Group			.5									
Contida Lane Civup							**			. 18		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	PF	<u></u> ↑	77	'n	<b>†</b>	7	ሻሻ	ተተ <sub>ጉ</sub>			Ä	<u></u>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util, Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.91			1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99			1.00	1.00
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3433	1863	2787	1770	1845	1561	3433	5046			1770	5085
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3433	1863	2787	1770	1845	1561	3433	5046			1770	5085
Volume (vph)	366	55	527	64	74	37	836	1779	84	13	36	1368
Peak-hour factor, PHF	0.86	0.86	0.86	0.88	0.88	0.88	0.96	0.96	0.96	0.90	0.90	0.90
Adj. Flow (vph)	426	64	613	73	84	42	871	1853	88	14	40	1520
RTOR Reduction (vph)	0	0	128	0	0	35	0	0	0	0	0	0
Lane Group Flow (vph)	426	64	485	73	84	7	871	1941	0	0	54	1520
Confl. Peds. (#/hr)						2			2			
Heavy Vehicles (%)	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot	Prot	
Protected Phases	5	2		1	6		3	8		7	7	4
Permitted Phases			2			6						
Actuated Green, G (s)	13.6	17.5	17.5	6.2	10.1	10.1	12.5	30.7			4.0	22.2
Effective Green, g (s)	13.6	19.5	19.5	6.2	12.1	12.1	12.5	32.4			4.0	23.9
Actuated g/C Ratio	0.17	0.25	0.25	0.08	0.15	0.15	,0.16	0.41			0.05	0.31
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	5.7			4.0	5.7
Vehicle Extension (s)	1.5	2.0	2.0	1.0	2.0	2.0	1.0	1.0			1.0	1.0
Lane Grp Cap (vph)	598	465	696	141	286	242	549	2093			91	1556
v/s Ratio Prot	c0.12	0.03		0.04	0.05		c0.25	c0.38			0.03	0.30
v/s Ratio Perm			c0.17			0.00						
v/c Ratio	0.71	0.14	0.70	0.52	0.29	0.03	1.59	0.93			0.59	0.98
Uniform Delay, d1	30.4	22.8	26.6	34.5	29.2	28.0	32.8	21.7			36.3	26.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.3	0.0	2.5	1.3	0.2	0.0	272.5	7.6			6.7	17.3
Delay (s)	33.7	22.8	29.1	35.8	29.4	28.0	305.3	29.4			43.0	44.2
Level of Service	С	С	С	D	С	С	F	С			Ď	D
Approach Delay (s)		30.5			31.5			114.8				40.6
Approach LOS		С			С			F				D
Intersection Summary												
HCM Average Control De	elay		72.7	Н	CM Lev	el of Se	ervice		Е			
<b>HCM Volume to Capacity</b>			0.92						<del>-</del> -			
Actuated Cycle Length (s			78.1	St	um of lo	st time	(s)		8.0			
Intersection Capacity Util	ization	7	77.4%			l of Ser			D			
Analysis Period (min)			15									
c Critical Lane Group								to the second				



Movement SBI	
Land Configurations	
Ideal Flow (vphpl) 1900	
Total Lost time (s) 4.0	
Lane Util. Factor 1.00	
Frpb, ped/bikes 0.99	
Flpb, ped/bikes 1.00	
Frt 0.8	
Fit Protected 1.00	
Satd. Flow (prot) 156	
Fit Permitted 1.00	
Satd. Flow (perm) 156	
Volume (vph) 37	
Peak-hour factor, PHF 0.90	
Adj. Flow (vph) 412	
RTOR Reduction (vph) 82	
Lane Group Flow (vph) 330	
Confl. Peds. (#/hr)	
Heavy Vehicles (%) 2%	
Turn Type Perm	
Protected Phases	
Permitted Phases	
Actuated Green, G (s) 22.2	
Effective Green, g (s) 23.9	
Actuated g/C Ratio 0.3	
Clearance Time (s) 5.7	
Vehicle Extension (s) 1.0	
Lane Grp Cap (vph) 478	<b>}</b>
v/s Ratio Prot	
v/s Ratio Perm 0.2	
v/c Ratio 0.69	
Uniform Delay, d1 23.8	
Progression Factor 1.00	
Incremental Delay, d2 3.5	
Delay (s) 27.3	
Level of Service C	i Mariana di Paranta da Santa d Santa da Santa da Sa
Approach Delay (s)	
Approach LOS	
Intersection Summary	

	•	*	<b>†</b>	<b>/</b>	<b>&gt;</b>	<b></b>	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	75.75	77	<b>↑</b> ↑	77	ሻሻ	ተተተ	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util, Factor	0.97	*0.75	0.95	0.88	*0.80	0.91	
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	and the second of the second o
Frt	1.00	0.85	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	2334	3539	2753	2831	5085	
FIt Permitted	0.95	1.00	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	2334	3539	2753	2831	5085	
Volume (vph)	1253	1365	1368	718	514	1441	
Peak-hour factor, PHF	0.89	0.89	0.95	0.95	0.94	0.94	
Adj. Flow (vph)	1408	1534	1440	756	547	1533	
RTOR Reduction (vph)	0	4	0	3	0	0	
Lane Group Flow (vph)	1408	1530	1440	753	547	1533	
Confl. Peds. (#/hr)		2		2			
Turn Type		pm+ov		om+ov	Prot		
Protected Phases	4	1	2	4	1	6	
Permitted Phases		4		2			
Actuated Green, G (s)	38.0	53.0	38.5	76.5	15.0	58.0	
Effective Green, g (s)	40.0	55.5	40.5	80.5	15.5	60.0	
Actuated g/C Ratio	0.37	0.51	0.38	0.75	0.14	0.56	
Clearance Time (s)	6.0	4.5	6.0	6.0	4.5	6.0	
Vehicle Extension (s)	2.0	1.5	2.0	2.0	1.5	2.0	
Lane Grp Cap (vph)	1271	1286	1327	2154	406	2825	
v/s Ratio Prot	0.41	c0.17	c0.41	0.13	0.19	0.30	
v/s Ratio Perm		0.48		0.14			
v/c Ratio	1.11	1.19	1.09	0.35	1.35	0.54	
Uniform Delay, d1	34.0	26.2	33.8	4.7	46.2	15.3	建设电路 医甲基甲氏性乳 化二氯甲磺胺异唑二甲二
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	antara di Managaran di Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupat Kabupatèn Kabupatèn
Incremental Delay, d2	60.2	93.4	51.2	0.0	171.9	0.8	
Delay (s)	94.2	119.7	85.0	4.8	218.2	16.0	
Level of Service	F	F	F	Α	F	В	
Approach Delay (s)	107.5		57.4			69.2	
Approach LOS	F		E			E	
Intersection Summary							
HCM Average Control D	elay		81.2	ŀ	ICM Lev	el of Se	ervice F
HCM Volume to Capacit		· **	1.15	and the first		J. J. J.	
Actuated Cycle Length (s			108.0	ç	um of lo	st time	(s) 8.0
Intersection Capacity Uti		•	98.2%		CU Leve		
Analysis Period (min)			15	Santa (			The second secon
c Critical Lane Group							

	۶	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	<i>&gt;</i>	<b>/</b>	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ኻኻ	<b>^</b> ^	7	ሻሻ	<b>ተ</b> ቀጉ		ሻሻ	ተቀኁ		ሻሻ	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	*0.75	11 1	0.97	0.91		0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5036	1560	3433	3993		3433	4940		3400	5085	1561
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5036	1560	3433	3993		3433	4940		3400	5085	1561
Volume (vph)	430	839	120	250	991	403	203	1091	229	454	1563	562
Peak-hour factor, PHF	0.79	0.79	0.79	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	544	1062	152	269	1066	433	221	1186	249	493	1699	611
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	0	0	0	133
Lane Group Flow (vph)	544	1062	106	269	1499	0	221	1435	0	493	1699	478
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Prot		Perm	Prot			Prot			Prot	•	Perm
Protected Phases	3	8		7	4		1	6	*.	5	2	
Permitted Phases			8				•					2
Actuated Green, G (s)	16.0	23.6	23.6	19.4	27.0		7.0	28.0		17.0	38.0	38.0
Effective Green, g (s)	16.0	25.6	25.6	19.4	29.0		7.0	30.0		17.0	40.0	40.0
Actuated g/C Ratio	0.15	0.24	0.24	0.18	0.27		0.06	0.28		0.16	0.37	0.37
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	2.0
Lane Grp Cap (vph)	509	1194	370	617	1072		223	1372		535	1883	578
v/s Ratio Prot	c0.16	0.21		0.08	c0.38		0.06	c0.29		c0.15	c0.33	
v/s Ratio Perm			0.07									0.31
v/c Ratio	1.07	0.89	0.29	0.44	1.40		0.99	1.05		0.92	0.90	0.83
Uniform Delay, d1	46.0	39.8	33.7	39.4	39.5		50.5	39.0		44.8	32.2	30.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	59.5	8.2	0.2	0.2	185.0	*	57.5	37.2		21.1	7.5	12.7
Delay (s)	105.5	48.0	33.9	39.6	224.5	a National Con-	107.9	76.2		66.0	39.7	43.6
Level of Service	F	D	С	D	F		F	Ε		E	D	D
Approach Delay (s)		64.6			196.3			80.5			45.2	
Approach LOS		Ε			F			F			D	
Intersection Summary												
HCM Average Control D	elay		90.2	ŀ	ICM Le	vel of Se	ervice		F			
HCM Volume to Capacit			1.10					100				
Actuated Cycle Length (			108.0	5	Sum of I	ost time	(s)		12.0			
Intersection Capacity Ut			93.0%			el of Ser			F			
Analysis Period (min)			15									
c Critical Lane Group				1.47	· 'a ·							

	<b>→</b>	•	•	<b>←</b>	₽Ĩ	4	<i>&gt;</i>						
Movement	EBT	EBR	WBL	WBT	NBU	NBL	NBR						
Lane Configurations	<b>^</b>	7	14 14	个个		76	7 7						
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900						
Total Lost time (s)	4.0	4.0	4.0	4.0		4.0	4.0				•		
Lane Util, Factor	0.95	1.00	0.97	0.95		0.97	0.88						
Frpb, ped/bikes	1.00	0.98	1.00	1.00		1.00	0.97						
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00						
Frt	1.00	0.85	1.00	1.00		1.00	0.85						
Flt Protected	1.00	1.00	0.95	1.00		0.95	1.00						
Satd. Flow (prot)	3539	1554	3433	3539		3433	2701						
Flt Permitted	1.00	1.00	0.95	1.00		0.95	1.00		:				
Satd. Flow (perm)	3539	1554	3433	3539		3433	2701						
Volume (vph)	1013	437	440	1925	20	767	291	et er	 			 	
Peak-hour factor, PHF	0.87	0.87	0.83	0.83	0.82	0.82	0.82						
Adj. Flow (vph)	1164	502	530	2319	24	935	355						
RTOR Reduction (vph)	0	101	0	0	0	0	10						
Lane Group Flow (vph)	1164	401	530	2319	0	959	345						
Confl. Peds. (#/hr)		6					12						
Turn Type	ale e	Perm	Prot	January 1	Split	_	ustom		 			 	· · · · · · · · · · · · · · · · · · ·
Protected Phases	2		1	6	7	7	1						
Permitted Phases		2			•		4						
Actuated Green, G (s)	45.2	45.2	19.8	69.0		29.0	48.8						
Effective Green, g (s)	47.2	47.2	19.8	71.0		29.0	48.8						
Actuated g/C Ratio	0.44	0.44	0.18	0.66		0.27	0.45						
Clearance Time (s)	6.0	6.0	4.0	6.0		4.0	4.0						
Vehicle Extension (s)	2.0	2.0	1.5	2.0		2.0	1.5						
Lane Grp Cap (vph)	1547	679	629	2327		922	1320					 	
v/s Ratio Prot	0.33	0,0	0.15	c0.66		c0.28	0.05	,					
v/s Ratio Perm		0.26	0.10	00.00		00.20	0.03						
v/c Ratio	0.75	0.59	0.84	1.00		1.04	0.06						
Uniform Delay, d1	25.5	23.1	42.6	18.4		39.5	18.4						
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00		7 1			+ -	
Incremental Delay, d2	3.4	3.7	9.6	17.9		40.6	0.0						
Delay (s)	28.9	26.8	52.2	36.2		80.1	18.4						
Level of Service	C	C	D	D D		F	В						
Approach Delay (s)	28.3			39.2		63.4	D	٠, ٠					
Approach LOS	C	100		D D		03.4 E	1342						
	•			D									
Intersection Summary													
HCM Average Control De			41.5	H	CM Lev	el of Se	rvice		C	) a j		·	
HCM Volume to Capacity			1.01										
Actuated Cycle Length (s			108.0			st time			8.0	1 1			
Intersection Capacity Util	ization	. 8	32.3%	IC	U Leve	of Serv	/ice		E				
Analysis Period (min)	10 14		15						e j		di e.		
c Critical Lane Group													

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Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations		Ä	4	77	ሻ	43-		14/4	<b>ተ</b> ቀሱ			ă
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0
Lane Util. Factor		0.95	0.95	0.88	0.95	0.95		0.97	0.91			1.00
Frpb, ped/bikes		1.00	1.00	0.99	1.00	1.00		1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Frt		1.00	1.00	0.85	1.00	0.98		1.00	0.99			1.00
Fit Protected		0.95	0.96	1.00	0.95	1.00		0.95	1.00			0.95
Satd. Flow (prot)		1681	1695	2761	1681	1733		3433	5036			1770
FIt Permitted		0.95	0.96	1.00	0.95	1.00		0.95	1.00			0.95
Satd. Flow (perm)		1681	1695	2761	1681	1733		3433	5036			1770
Volume (vph)	18	322	30	582	104	80	11	331	932	51	11	<b>7</b> 7
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.69	0.69	0.69	0.95	0.95	0.95	0.89	0.89
Adj. Flow (vph)	23	413	38	746	151	116	16	348	981	54	12	87
RTOR Reduction (vph)	0	0	0	57	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	232	242	689	139	144	0	348	1035	0	0	99
Confl. Peds. (#/hr)				4	4	4.54				5		
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split	Split		pm+ov	Split			Prot			Prot	Prot
Protected Phases	4	4	4	5	3	3		5	2		1	1
Permitted Phases				4				. 2				
Actuated Green, G (s)		18.3	18.3	36.3	11.0	11.0		18.0	52.0			8.4
Effective Green, g (s)		19.6	19.6	37.6	11.0	11.0		18.0	53.0			8.4
Actuated g/C Ratio		0.18	0.18	0.35	0.10	0.10		0.17	0.49			0.08
Clearance Time (s)		5.3	5.3	4.0	4.0	4.0		4.0	5.0			4.0
Vehicle Extension (s)	. <u> </u>	2.0	2.0	1.0	1.5	1.5		1.0	2.0	1 11		1.0
Lane Grp Cap (vph)		305	308	961	171	177		572	2471			138
v/s Ratio Prot		0.14	c0.14	c0.12	0.08	c0.08		0.10	0.21			0.06
v/s Ratio Perm				0.13								
v/c Ratio		0.76	0.79	0.72	0.81	0.81		0.61	0.42			0.72
Uniform Delay, d1		42.0	42.2	30.6	47.5	47.5		41.7	17.6			48.6
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Incremental Delay, d2		9.6	11.5	2.1	23.5	22.9		1.3	0.5			13.7
Delay (s)		51.6	53.7	32.7	71.0	70.4		43.0	18.2			62.4
Level of Service		D	D	С	E	E		, , , D	В			E
Approach Delay (s)			40.5			70.7			24.4			. 1447
Approach LOS			D			E			С			
Intersection Summary												
HCM Average Control D	elay		34.3	F	ICM Le	vel of S	ervice		С			
HCM Volume to Capacit			0.78						400			
Actuated Cycle Length (			108.0			ost time			16.0			
Intersection Capacity Uti	lization		64.4%	10	CU Lev	el of Se	rvice		С		100	
Analysis Period (min)			15									
c Critical Lane Group												

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	on.	Opp					III 2012-1014-1014-1014-1014-1014-1014-1014-	***************************************			
Movement Lan≩Configurations	SBT										
Ideal Flow (vphpl)	<b>↑</b> ↑↑	1000	**				•				
Total Lost time (s)	1900 4.0	1900									
Lane Util. Factor	0.91	4.0 1.00									
Frpb, ped/bikes	1.00	0.98									
Flpb, ped/bikes	1.00	1.00									
Frt	1.00	0.85									
Flt Protected	1.00	1.00									
Satd. Flow (prot)	5085	1552	2 2 T								
Flt Permitted	1.00	1.00									
Satd. Flow (perm)	5085	1552									
Volume (vph)	1444	366				 		,	<del></del>		
Peak-hour factor, PHF	0.89	0.89									
Adj. Flow (vph)	1622	411									
RTOR Reduction (vph)	0	83									
Lane Group Flow (vph)	1622	328									*
Confl. Peds. (#/hr)		6									
Heavy Vehicles (%)	2%	2%									
Turn Type		Perm			 			······································		<del></del>	
Protected Phases	6										
Permitted Phases		6	^								
Actuated Green, G (s)	42.4	42.4									
Effective Green, g (s)	43.4	43.4							*		
Actuated g/C Ratio	0.40	0.40									
Clearance Time (s)	5.0	5.0							•		
Vehicle Extension (s)	2.0	2.0									
Lane Grp Cap (vph)	2043	624						······································		<del></del>	-
v/s Ratio Prot	c0.32										
v/s Ratio Perm		0.21									
v/c Ratio	0.79	0.53		4		2.5					
Uniform Delay, d1	28.4	24.5									
Progression Factor	1.00	1.00				2					
Incremental Delay, d2	3.3	3.1									
Delay (s)	31.7	27.6									
Level of Service	С	C									•
Approach Delay (s)	32.3										
Approach LOS	С										
Intersection Summary											

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተ ፡		ሻሻ	ተተተ	7	ሻሻ	ተተ <sub>ጉ</sub>		ሻሻ	ተተተ	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.91	8.90	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4861		3433	5085	1560	3433	4958		3433	5085	1560
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4861		3433	5085	1560	3433	4958		3433	5085	1560
Volume (vph)	544	1137	239	200	1343	102	374	607	102	453	1263	657
Peak-hour factor, PHF	0.91	0.91	0.91	0.92	0.92	0.92	0.83	0.83	0.83	0.90	0.90	0.90
Adj. Flow (vph)	598	1249	263	217	1460	111	451	731	123	503	1403	730
RTOR Reduction (vph)	0	0	0	0	0	33	0	0	0	0	0	145
Lane Group Flow (vph)	598	1512	0	217	1460	78	451	854	0	503	1403	585
Confl. Peds. (#/hr)	7.7.7		2			2			2		. •	2
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%
Turn Type	Prot		i i i i	Prot		Perm	Prot			Prot	· · · · · · · · · · · · · · · · · · ·	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	•			. •	,	8					·	6
Actuated Green, G (s)	15.7	32.7		9.0	26.0	26.0	15.8	33.0		14.7	31.9	31.9
Effective Green, g (s)	15.7	34.0		9.0	27.3	27.3	15.8	34.3		14.7	33.2	33.2
Actuated g/C Ratio	0.15	0.31		0.08	0.25	0.25	0.15	0.32	E 15	0.14	0.31	0.31
Clearance Time (s)	4.0	5.3		4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	0.5	2.0		0.5	2.0	2.0	0.5	2.0		0.5	2.0	2.0
Lane Grp Cap (vph)	499	1530	<del></del>	286	1285	394	502	1575	<u> </u>	467	1563	480
v/s Ratio Prot	c0.17	0.31		0.06	c0.29	304	c0.13	0.17		0.15	0.28	400
	60.17	0.51		0.00	CO.23	0.05	00,10	0.17		0.15	0.20	c0.37
v/s Ratio Perm	1.20	0.99		0.76	1.14	0.20	0.90	0.54	4.4	1.08	0.90	1.22
v/c Ratio	46.1	36.8		48.4	40.4	31.7	45.3	30.4	1,211,41	46.6	35.8	37.4
Uniform Delay, d1 Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1000	1.00	1.00	1.00
	107.4	20.0		9.8	71.3	0.1	18.2	1.3		63.9	8.5	115.8
Incremental Delay, d2	153.5	56.8		58.2	111.7	31.8	63.5	31.7		110.6	44.3	153.2
Delay (s) I evel of Service	155.5 F	50.0 E		50.2 E	F	C	60.5 E	C		F	D	F
Approach Delay (s)	•	84.2			100.2	- J	_	42.7		4 1 2 ·	87.1	· Anna grander
Approach LOS		F			F		'. ' · . ·	D			F	
Intersection Summary												
HCM Average Control D	elav		81.9	ŀ	ICM Le	vel of S	ervice		F			
HCM Volume to Capacit			1.14									
Actuated Cycle Length (			108.0		Sum of I	ost time	e (s)		16.0			
Intersection Capacity Ut			91.1%		CU Lev				F			
Analysis Period (min)			15		- <b></b>	-,: - 1 = 5			-			
c Critical Lane Group	i territari											
5 Official Euro Group			*									

	۶	<b>→</b>	•	•	4-	•	4	†	~	1	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.14	<b>^</b>	7	14.54	<b>个</b> 个	74	ሻሻ	<b>↑</b> ↑	7	المالم	<b>^</b> ^	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	*0.83	0.95	1.00	*0.85	0.95	1.00	0.97	0.95	1.00	0.97	*0.75	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2938	3539	1583	3008	3539	1560	3433	3539	1560	3433	2794	1569
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2938	3539	1583	3008	3539	1560	3433	3539	1560	3433	2794	1569
Volume (vph)	539	674	361	374	1055	75	293	583	309	53	774	683
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.99	0.99	0.99	0.88	0.88	0.88
Adj. Flow (vph)	580	725	388	402	1134	81	296	589	312	60	880	776
RTOR Reduction (vph)	0	0	78	0	0	52	0	0	62	0	0	6
Lane Group Flow (vph)	580	725	310	402	1134	29	296	589	250	60	880	770
Confl. Peds. (#/hr)						2			2			2
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		om+ov
Protected Phases	3	8		7	4		1	6		5	2	3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	17.0	33.4	33.4	16.6	33.0	33.0	10.6	34.1	34.1	5.7	29.2	46.2
Effective Green, g (s)	17.0	34.7	34.7	16.6	34.3	34.3	10.6	35.0	35.0	5.7	30.1	47.1
Actuated g/C Ratio	0.16	0.32	0.32	0.15	0.32	0.32	0.10	0.32	0.32	0.05	0.28	0.44
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3	5.3	4.0	4.9	4.9	4.0	4.9	4.0
Vehicle Extension (s)	0.5	2.0	2.0	0.5	2.0	2.0	0.5	2.0	2.0	0.5	2.0	0.5
Lane Grp Cap (vph)	462	1137	509	462	1124	495	337	1147	506	181	779	684
v/s Ratio Prot	c0.20	0.20		0.13	c0.32		c0.09	0.17		0.02	c0.31	0.18
v/s Ratio Perm			0.20			0.02			0.16			0.31
v/c Ratio	1.26	0.64	0.61	0.87	1.01	0.06	0.88	0.51	0.49	0.33	1.13	1.13
Uniform Delay, d1	45.5	31.3	30.9	44.6	36.9	25.6	48.1	29.6	29.4	49.3	39.0	30.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.82	0.80	1.00	1.00	1.00
Incremental Delay, d2	131.7	0.9	1.4	15.8	29.0	0.0	15.6	1.1	2.3	0.4	74.2	74.4
	177.2	32.2	32.3	60.4	65.9	25.6	54.4	25.5	25.7	49.7	113.1	104.8
Level of Service	F	С	C	E	E	C	D	C	С	. D	F	F
Approach Delay (s)		81.9			62.5			32.7			107.2	
Approach LOS		F			Ε			C			F	
Intersection Summary												
HCM Average Control De	elay		74.4	Н	CM Lev	el of Se	rvice		Е			
<b>HCM Volume to Capacity</b>	/ ratio		1.08						<del>-</del>		Sulface Sulface	
Actuated Cycle Length (s	s)		108.0	S	um of lo	st time	(s)		16.0			
Intersection Capacity Util	ization		90.0%			of Serv			E			
Analysis Period (min)			15									
c Critical Lane Group												

	<b></b>	۶	-	*	F	•	4	4	1	†	<i>&gt;</i>	-
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBA	SBL
Lane Configurations		3	ተተጉ	10 20 20 20		Ä	ተተኩ		ሻ	4		7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0		4.0	4.0		4.0
Lane Util. Factor		1.00	0.91			1.00	0.91	1/2	0.95	0.95		0.95
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00		1.00
Frt		1.00 0.95	0.99			1.00 0.95	0.99 1.00	. 14	1.00 0.95	0.93 0.99		1.00 0.95
Fit Protected		1770	5026	See See		1770	5046		1681	1618		1681
Satd. Flow (prot) Flt Permitted		0.95	1.00			0.95	1.00		0.95	0.99	100	0.95
Satd. Flow (perm)	f d	1770	5026			1770	5046		1681	1618		1681
Volume (vph)	24	49	1286	82	14	53	1440	67	67	11	24	404
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.94	0.94	0.94	0.94	0.75	0.75	0.75	0.77
Adj. Flow (vph)	30	62	1628	104	15	56	1532	71	89	15	32	525
RTOR Reduction (vph)	0	02	0	0	0	0	0	0	0	0	0	0_0
Lane Group Flow (vph)	0	92	1732	0	0	71	1603	Ö	70	66	. 0	325
Confl. Peds. (#/hr)	0	٧Ł	1702	2	0.		1000	2	11	. 00	i. 9	020
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	- ,0		Prot	Prot			Split		<b>-</b> / <b>-</b> / <b>-</b> /-	Split
Protected Phases	5	5	2		1	1 101	6		3	3		4
Permitted Phases	Ū	•	, -			• • • •	- <b>V</b> .		~	•		
Actuated Green, G (s)		8.7	52.7			6.9	50.9		7.4	7.4		23.0
Effective Green, g (s)		8.7	53.7			6.9	51.9		7.4	7.4		24.0
Actuated g/C Ratio		0.08	0.50			0.06	0.48		0.07	0.07		0.22
Clearance Time (s)		4.0	5.0			4.0	5.0		4.0	4.0		5.0
Vehicle Extension (s)		1.0	3.0	andres. Salas salas s		1.0	3.0		1.5	1.5		1.5
Lane Grp Cap (vph)		143	2499		······································	113	2425	<del></del>	115	111		374
v/s Ratio Prot	the stage	c0.05	c0.34			0.04	0.32		c0.04	0.04		0.19
v/s Ratio Perm		1,7177					2.3.1				* * * * * * * * * * * * * * * * * * * *	
v/c Ratio		0.64	0.69			0.63	0.66	Marina.	0.61	0.59	Karamatan da sanara Karamatan da sanara	0.87
Uniform Delay, d1		48.1	20.8			49.3	21.4		48.9	48.8		40.5
Progression Factor		1.00	1.00			1.06	0.70		1.00	1.00		1.00
Incremental Delay, d2		7.2	1.6			3.1	0.6		6.1	5.6		18.2
Delay (s)		55.4	22.4	4.7		55.6	15.6		55.0	54.4		58.7
Level of Service		E	С			E	В		E	D		Ε
Approach Delay (s)			24.1				17.3			54.7		
Approach LOS			С				В			D		
Intersection Summary												
HCM Average Control Do	elay		27.8	Н	ICM Lev	el of Se	ervice		С			
<b>HCM Volume to Capacity</b>			0.71			•						
Actuated Cycle Length (s	3)		108.0			ost time			12.0			
Intersection Capacity Util	lization		64.0%	IC	CU Leve	el of Ser	vice		В			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBT	SBR
Lane Configurations	4	
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	at de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co
Flpb, ped/bikes	1.00	
Frt	0.99	
Flt Protected	0.97	and the second of the second o
Satd. Flow (prot)	1691	er en en en en en en en en en en en en en
Fit Permitted	0.97	
Satd. Flow (perm)	1691	
Volume (vph)	77	22
Peak-hour factor, PHF	0.77	0.77
Adj. Flow (vph)	100	29
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	329	
Confl. Peds. (#/hr)		11
Heavy Vehicles (%)	2%	
Turn Type		
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	23.0	
Effective Green, g (s)	24.0	
Actuated g/C Ratio	0.22	
Clearance Time (s)	5.0	
Vehicle Extension (s)	1.5	
Lane Grp Cap (vph)	376	
	c0.19	And the street of the control of the
v/s Ratio Perm	0.00	
v/c Ratio	0.88 40.6	
Uniform Delay, d1 Progression Factor	1.00	
Incremental Delay, d2	1.00	
Delay (s)	59.7	
Level of Service	59.7 E	en la companya de la proposición de la companya de la companya de la companya de la companya de la companya de
Approach Delay (s)	59.2	
Approach LOS	E	
	<b>L</b>	
Intersection Summary		

	۶		*	F	•	4	4	₹N	4	<b>†</b>	~	<b>&gt;</b>
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBŘ	SBL
Lane Configurations	ሻ	ተተ <sub>ጉ</sub>			Ä	ተተተ	7		Ä	<b>↑</b>	7 7	<b>)</b>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			1.00	0.91	1.00		1.00	1.00	0.88	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.99			1.00	1.00	0.85		1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00			0.95	1.00	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)	1770	5039			1689	5085	1546		1770	1863	2760	1770
Flt Permitted	0.95	1.00			0.95	1.00	1.00		0,95	1.00	1.00	0.95
Satd. Flow (perm)	1770	5039			1689	5085	1546		1770	1863	2760	1770
Volume (vph)	268	1391	91	5	184	1156	538	1	73	39	223	256
Peak-hour factor, PHF	0.79	0.79	0.79	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.92
Adj. Flow (vph)	339	1761	115	6	209	1314	611	1	83	44	253	278
RTOR Reduction (vph)	0	0	0	0	0	0	441	0	0	0	51	0
Lane Group Flow (vph)	339	1876	0	0	215	1314	170	0	84	44	202	278
Confl. Peds. (#/hr)							2		2			
Heavy Vehicles (%)	2%	2%	2%	2%	7%	2%	2%	2%	2%	2%	3%	2%
Turn Type	Prot			Prot	Prot		Perm	Split	Split		Perm	Split
Protected Phases	5	2		1	1	6		3	3	3		4
Permitted Phases							6				3	
Actuated Green, G (s)	22.2	38.0			13.0	28,8	28.8		8.0	8.0	8.0	32.0
Effective Green, g (s)	21.9	39.3			12.7	30.1	30.1		8.0	8.0	8.0	32.0
Actuated g/C Ratio	0.20	0.36			0.12	0.28	0.28		0.07	0.07	0.07	0.30
Clearance Time (s)	3.7	5.3			3.7	5.3	5.3		4.0	4.0	4.0	4.0
Vehicle Extension (s)	2.0	4.1			2.0	4.5	4.5		4.5	4.5	4.5	7.1
Lane Grp Cap (vph)	359	1834			199	1417	431		131	138	204	524
v/s Ratio Prot	0.19	c0.37			0.13	c0.26			0.05	0.02		0.16
v/s Ratio Perm							0.11				c0.07	
v/c Ratio	0.94	1.02			1.08	0.93	0.40		0.64	0.32	0.99	0.53
Uniform Delay, d1	42.4	34.4			47.6	37.9	31.6		48.6	47.4	50.0	31.7
Progression Factor	0.76	0.65			0.63	0.54	1.61		1.00	1.00	1.00	1.00
Incremental Delay, d2	25.7	23.5			69.7	7.1	1.4		12.5	2.3	60.2	3.1
Delay (s)	58.0	46.0			99.5	27.4	52.1		61.1	49.7	110.2	34.8
Level of Service	E	D			F	С	D		Ε	D	F	С
Approach Delay (s)		47.8		4.20		41.7				92.4		
Approach LOS		D				D				F		
Intersection Summary												
HCM Average Control D	elav		49.9	F	ICM Le	vel of S	ervice		Đ			
HCM Volume to Capacit			0.97									
Actuated Cycle Length (s			108.0	5	Sum of I	ost time	(s)		12.0			
Intersection Capacity Uti			80.1%			el of Se			D		1 1	
Analysis Period (min)			15	<del>.</del>								
c Critical Lane Group	$\phi_{i,j}(x) = \phi_{i,j}(x)$	e										
o ontion Lano C. sup												

Movement	SBT	SBR	
Lane Configurations	f)	7	
Ideal Flow (vphpl)	1900	1900	
Total Lost time (s)	4.0	4.0	
Lane Util. Factor	0.95	0.95	
Frpb, ped/bikes	0.99	0.99	
Flpb, ped/bikes	1.00	1.00	
Frt	0.92	0.85	
Flt Protected	1.00	1.00	
Satd. Flow (prot)	1617	1483	
Flt Permitted	1.00	1.00	
Satd. Flow (perm)	1617	1483	
Volume (vph)	198	573	
Peak-hour factor, PHF	0.92	0.92	
Adj. Flow (vph)	215	623	
RTOR Reduction (vph)	0	0	andre de la companya de la companya de la companya de la companya de la companya de la companya de la companya La companya de la co
Lane Group Flow (vph)	456	382	
Confl. Peds. (#/hr)		2	
Heavy Vehicles (%)	2%	2%	
Turn Type		Perm	
Protected Phases	4		
Permitted Phases		4	
Actuated Green, G (s)	32.0	32.0	
Effective Green, g (s)	32.0	32.0	
Actuated g/C Ratio	0.30	0.30	
Clearance Time (s)	4.0	4.0	
Vehicle Extension (s)	7.1	7.1	
Lane Grp Cap (vph)	479	439	
v/s Ratio Prot	c0.28		
v/s Ratio Perm	100	0.26	
v/c Ratio	0.95	0.87	
Uniform Delay, d1	37.2	36.0	
Progression Factor	1.00	1.00	
Incremental Delay, d2	30.6	19.5	
Delay (s)	67.8	55.6	
Level of Service	E -	E	
Approach Delay (s)	55.4		
Approach LOS	Е		
Intersection Summary			

	3	٠	-	•	4	*	•	4	<b>†</b>	<b>/</b>	<b>&gt;</b>	<b>↓</b>
Movement	EBL2	EBL	EBT	EBR	WBT	WBR 1	WBR2	NBL2	NBT	NBR	SBL	SBT
Lane Configurations		ă	ተተተ	ř	<u>ቀ</u> ቀሱ		7	7	4	7		<del></del>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lane Util. Factor		1.00	0.91	1.00	0.86		0.86	0.95	0.95	1.00	en en en en en en en en en en en en en e	1.00
Frpb, ped/bikes		1.00	1.00	0.98	1.00		0.98	1.00	1.00	0.99		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85	0.98		0.85	1.00	1.00	0.85		0.90
Flt Protected		0.95	1.00	1.00	1.00		1.00	0.95	0.96 1689	1.00		0.99
Satd. Flow (prot)		1746	5085	1549	4682		1341 1.00	1681 0.95	0.96	1561 1.00		1652 0.86
Fit Permitted		0.95 1746	1.00 5085	1.00 1549	1.00 4682		1341	1681	1689	1561		1437
Satd. Flow (perm)	22	46	1178	629	1545	266	12	289	13	376	19	0
Volume (vph)	0.84	0.84	0.84	0.84	0.88	0.88	0.88	0.90	0.90	0.90	0.71	0.71
Peak-hour factor, PHF	26	0.64 55	1402	749	1756	302	14	321	14	418	27	0.71
Adj. Flow (vph) RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	30	0	0
Lane Group Flow (vph)	0	81	1402	749	2058	Ö	14	165	170	388	0	109
Confl. Peds. (#/hr)	. 0	01	1402	3	2000	2	2	.00	., ., .,	2	2	.00
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	4%	2%	2%	2%
Turn Type	Prot	Prot		Free	<del></del>		Perm	Split	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perm	Perm	
Protected Phases	5	5	2		6			3	3			4
Permitted Phases		,		Free		· '	6			3	4	
Actuated Green, G (s)		8.8	64.8	108.0	51.9		51.9	23.0	23.0	23.0		7.0
Effective Green, g (s)		8.5	65.7	108.0	53.2		53.2	23.6	23.6	23.6		6.7
Actuated g/C Ratio		0.08	0.61	1.00	0.49		0.49	0.22	0.22	0.22	3.	0.06
Clearance Time (s)		3.7	4.9		5.3		5.3	4.6	4.6	4.6		3.7
Vehicle Extension (s)		2.0	5.1		4.2	vide de	4.2	5.0	5.0	5.0		1.5
Lane Grp Cap (vph)		137	3093	1549	2306	•	661	367	369	341		89
v/s Ratio Prot		0.05	0.28		c0.44			0.10	0.10			
v/s Ratio Perm				c0.48			0.01			c0.25		c0.08
v/c Ratio		0.59	0.45	0.48	0.89		0.02	0.45	0.46	1.14		1.22
Uniform Delay, d1		48.1	11.4	0.0	24.8		14.0	36.6	36.7	42.2		50.6
Progression Factor		0.61	0.33	1.00	0.45		0.34	1.00	1.00	1.00		1.00
Incremental Delay, d2		1.5	0.2	0.1	2.7		0.0	1.8	1.9	91.9		167.6
Delay (s)		30.6	3.9	0.1	14.0		4.9	38.4	38.6	134.1		218.3
Level of Service		C	Α	Α	В		A	D	D	F		F
Approach Delay (s)			3.6		13.9				91.5			218.3
Approach LOS			Α		В				۲			۲
Intersection Summary												
HCM Average Control D			25.1	ŀ	HCM Lev	vel of Se	ervice		С			
HCM Volume to Capacity			0.92									
Actuated Cycle Length (s			108.0		Sum of le				12.0			
Intersection Capacity Uti	lization		66.6%	i	CU Leve	el of Ser	vice		С			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	CDO	SBR2	
Lant Configurations	SBR	ODNZ	
Ideal Flow (vphpl)	1900	1900	
Total Lost time (s)	1500	1300	
Lane Util. Factor			
Frpb, ped/bikes		er a same	
Flpb, ped/bikes			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Volume (vph)	49	9	
Peak-hour factor, PHF	0.71	0.71	
Adj. Flow (vph)	69	13	
RTOR Reduction (vph)	0	0	
Lane Group Flow (vph)	0	0	
Confl. Peds. (#/hr) Heavy Vehicles (%)	2%	2%	
Turn Type	2./0	Z/0	
Protected Phases		, ,	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co
Permitted Phases			
Actuated Green, G (s)			
Effective Green, g (s)			
Actuated g/C Ratio			
Clearance Time (s)			
Vehicle Extension (s)		2 TABE	
Lane Grp Cap (vph)			
v/s Ratio Prot		-1	
v/s Ratio Perm			
v/c Ratio	e jednosti.		보고 생활 함께 그는 얼마 그리를 그 그리고 말하는 것 같아.
Uniform Delay, d1			
Progression Factor			
Incremental Delay, d2			
Delay (s) Level of Service			and the second of the control of the control of the control of the control of the control of the control of the
Approach Delay (s)			en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de
Approach LOS			
		Charle annual continue	
Intersection Summary			

	<b></b>	•	<b>-</b>	*	F	•	4	4	₹I	1	†	~
Movement	EBU.	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		<u>ች</u> ኻ	<b>个</b> 个	7		ሽኘ	ተተተ	<i>*</i> *		37	ተተጉ	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		*0.75	0.95	1.00		0.97	0.91	1.00		*0.75	0.91	
Frpb, ped/bikes		1.00	1.00	0.98		1.00	1.00	0.98		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.98	
Fit Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)		2654	3539	1544		3433	5085	1556		2654	4947	
FIt Permitted		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	
Satd. Flow (perm)		2654	3539	1544		3433	5085	1556	·	2654	4947	
Volume (vph)	3	492	720	228	23	139	784	108	4	241	395	74
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.88	0.88	0.88	0.88	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	579	847	268	26	158	891	123	4	268	439	82
RTOR Reduction (vph)	. 0	0	. 0	54	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	. 0	583	847	214	0	184	891	98	0	272	521	0
Confl. Peds. (#/hr)				10				4				8
Turn Type	Prot	Prot		Perm	Prot	Prot		Perm	Prot	Prot		
Protected Phases	5	5	2		. 1	1	6		. 3	3	8	
Permitted Phases				2				6				
Actuated Green, G (s)		20.1	27.4	27.4		20.1	27.4	27.4		10.1	30.3	
Effective Green, g (s)		20.7	28.3	28.3		20.7	28.3	28.3		10.7	31.2	
Actuated g/C Ratio		0.19	0.26	0.26		0.19	0.26	0.26		0.10	0.29	
Clearance Time (s)		4.6	4.9	4.9		4.6	4.9	4.9		4.6	4.9	
Vehicle Extension (s)		1.5	2.0	2.0		1.0	2.0	2.0		1.0	2.0	
Lane Grp Cap (vph)		509	927	405		658	1332	408		263	1429	
v/s Ratio Prot		c0.22	c0.24			0.05	0.18			c0.10	0.11	
v/s Ratio Perm				0.14				0.06				
v/c Ratio		1.15	0.91	0.53		0.28	0.67	0.24		1.03	0.36	
Uniform Delay, d1		43.6	38.7	34.1		37.3	35.7	31.4		48.6	30.5	
Progression Factor		0.82	1.18	1.26		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		82.8	12.3	3.9		0.1	2.7	1.4		64.7	0.1	
Delay (s)		118.7	57.7	47.0		37.4	38.3	32.8		113.3	30.6	
Level of Service		F	, E	D		D	D	С		F	C,	
Approach Delay (s)			77.0				37.6				59.0	
Approach LOS			. E				D				Е	
Intersection Summary												
HCM Average Control De	elav		78.7	F	ICM Lev	el of S	ervice		Е			
HCM Volume to Capacity			1.09			18,517;						
Actuated Cycle Length (s			108.0	S	Sum of lo	st time	(s)		16.0	e to de ens		
Intersection Capacity Util			83.9%		CU Leve				E			
Analysis Period (min)			15								*	
c Critical Lane Group										٠		
o omica zano areap												

	L	1	1	4	
Movement	SBU	SBL	SBT	SBR	
Lane Configurations		<b></b>	<b>∱</b> }	7	
Ideal Flow (vphpl)	1900	1900	1900	1900	Barrier Barrier (1984) and the Barrier Barrier (1984) and the Barrie
Total Lost time (s)		4.0	4.0	4.0	
Lane Util, Factor		1.00	0.91	*0.80	<b>美国的国家政策的 医二氏性神经炎 医二氏性神经炎</b>
Frpb, ped/bikes		1.00	1.00	0.99	and the second of Maria and the second of the second of the second of the second of the second of the second of
Flpb, ped/bikes		1.00	1.00	1.00	<b>新国工厂的股份的基础的工厂的工作的人的</b>
Frt		1.00	0.95	0.85	
Flt Protected		0.95	1.00	1.00	
Satd. Flow (prot)		1770	3217	1248	
Flt Permitted		0.95	1.00	1.00	4. "我们是有数据的基础,我们就是一个人。""我们是这个人
Satd. Flow (perm)		1770	3217	1248	
Volume (vph)	1	140	696	687	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	
Adj. Flow (vph)	1	163	809	799	
RTOR Reduction (vph)	0	0	0	0	
Lane Group Flow (vph)	0	164	1176	432	and the angle of the property of the second of the second
Confl. Peds. (#/hr)				2	
Turn Type	Prot	Prot		Perm	
Protected Phases	7	7	4	• •	tari katalogi kalendari kalendari katalogi katalogi kalendari katalogi katalogi katalogi katalogi katalogi kat Katalogi katalogi ka
Permitted Phases				4	
Actuated Green, G (s)		11.2	31.4	31.4	and the first of the control of the control of the control of the control of the control of the control of the The control of the control of
Effective Green, g (s)		11.8	32.3	32.3	
Actuated g/C Ratio		0.11	0.30	0.30	
Clearance Time (s)		4.6	4.9	4.9	
Vehicle Extension (s)		0.5	2.0	2.0	
Lane Grp Cap (vph)		193	962	373	
v/s Ratio Prot		0.09	c0.37		
v/s Ratio Perm				0.35	
v/c Ratio		0.85	1.22	1.16	of the control of the first of the control of the c
Uniform Delay, d1		47.2	37.9	37.9	
Progression Factor		0.86	0.65	0.65	
Incremental Delay, d2		12.9	104.2	83.5	Participation of Commence of the Commence of t
Delay (s)		53.5	128.9	108.1	
Level of Service		D	F	F	
Approach Delay (s)			116.8		
Approach LOS			F		
Intersection Summary					

	<b></b>	٠	<b>→</b>	*	•	<b>←</b>	4	₽Ĩ	4	<b>†</b>	~	L♣
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations		<b>ሕ</b> ኻ	ተቶጐ		<b>አ</b> ካ	<del>ተ</del> ተጉ			ă	ተተጉ		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0	4.0		
Lane Util. Factor		0.97	0.91		0.97	0.91			1.00	0.91		
Frpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00		
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00 0.97		
Frt		1.00	0.97 1.00		1.00 0.95	0.96 1.00			1.00 0.95	1.00		
Flt Protected		0.95 3433	4926		3433	4813			1770	4905	V	
Satd. Flow (prot) Flt Permitted	e jako e	0.95	1.00		0.95	1.00			0.95	1.00		
Satd. Flow (perm)		3433	4926		3433	4813			1770	4905		
	2	229	369	86	282	334	129	6	253	1226	248	1
Volume (vph) Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.88	0.88	0.88	0.80	0.80	0.80	0.80	0.91
Adj. Flow (vph)	2	254	410	96	320	380	147	8	316	1532	310	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	. 0	0	0	0	0
Lane Group Flow (vph)	Ŏ	256	506	Ō	320	527	0	0	324	1842	0	0
Confl. Peds. (#/hr)	· • .		•••	2			2				2	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	2%	2%	3%	2%	2%
Turn Type	Prot	Prot			Prot			Prot	Prot			Prot
Protected Phases	7	7	4		3	8		5	5	2		1
Permitted Phases			•						***			
Actuated Green, G (s)		11.5	18.2		13.2	19.9			20.3	40.3		
Effective Green, g (s)		12.7	18.6		14.4	20.3			20.0	40.7		
Actuated g/C Ratio		0.13	0.19		0.15	0.21			0.21	0.42		
Clearance Time (s)		5.2	4.4		5.2	4.4			3.7	4.4		
Vehicle Extension (s)	i.	2.0	5.2	je i e i i	2.0	5.2	ola la e		2.0	5.2		
Lane Grp Cap (vph)		448	941		508	1003			363	2050		
v/s Ratio Prot		0.07	0.10		c0.09	c0.11			c0.18	c0.38		
v/s Ratio Perm										202		
v/c Ratio		0.57	0.54		0.63	0.53			0.89	0.90		
Uniform Delay, d1		39.8	35.5		39.0	34.3			37.7	26.4		
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00		
Incremental Delay, d2		1.1	1.1		1.8	1.0			22.5	6.1		
Delay (s)		40.9	36.7		40.8	35.3			60.2	32.6		
Level of Service		D	D		D	D			E	C 36.7		
Approach Delay (s)	t term		38.1			37.3 D	er en in er			36.7 D		
Approach LOS			D			D				D		
Intersection Summary												
HCM Average Control Do			36.0	H	ICM Le	vel of S	ervice		D			
HCM Volume to Capacity		100	0.73								1	
Actuated Cycle Length (s			97.4			ost time			8.0			
Intersection Capacity Uti	lization		65.0%	į.	CU Lev	el of Se	rvice		С			
Analysis Period (min)			15									
c Critical Lane Group		*		Carlo Mills								

	<b>~</b>	<b>↓</b>	1	
Movement	SBL	SBT	SBR	
Lane Configurations	Ä	ተተተ	'ام	
Ideal Flow (vphpl)	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	and the control of the second of the control of the control of the control of the control of the control of the
Flpb, ped/bikes	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1770	5036	1560	
Flt Permitted	0.95	1.00	1.00	AND AND THE MENT OF THE PARTY OF THE PARTY.
Satd. Flow (perm)	1770	5036	1560	
Volume (vph)	81	843	143	
Peak-hour factor, PHF	0.91	0.91	0.91	
Adj. Flow (vph)	89	926	157	
RTOR Reduction (vph)	0	0	31	
Lane Group Flow (vph)	90	926	126	
Confl. Peds. (#/hr)			2	
Heavy Vehicles (%)	2%	3%	2%	
Turn Type	Prot		Perm	
Protected Phases	1	6		
Permitted Phases			6	
Actuated Green, G (s)	8.0	28.0	28.0	
Effective Green, g (s)	7.7	28.4	28.4	
Actuated g/C Ratio	0.08	0.29	0.29	
Clearance Time (s)	3.7	4.4	4.4	
Vehicle Extension (s)	2.0	5.2	5.2	
Lane Grp Cap (vph)	140	1468	455	
v/s Ratio Prot	0.05	0.18		
v/s Ratio Perm			0.08	et in de la companya de la companya de la companya de la companya de la companya de la companya de la companya
v/c Ratio	0.64	0.63	0.28	Carteria de Careca de Carteria de Carteria de Carteria de Carteria de Carteria de Carteria de Carteria de Cart
Uniform Delay, d1	43.5	29.9	26.6	
Progression Factor	1.00	1.00	1.00	
Incremental Delay, d2	7.3	1.3	0.7	カー・キー・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・
Delay (s)	50.9	31.2	27.3	
Level of Service	D	C	С	
Approach Delay (s)		32.2		
Approach LOS		С		

Intersection Summary

	٦	<b>→</b>	*	€	+	4	4	†	<i>&gt;</i>	1	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ž	<b>^</b>	7	ሻ	<b>†</b> \$		ሻ	4			4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98			0.95	
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.99	
Satd. Flow (prot)	1770	3539	1536	1770	3512		1681	1666			1719	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.99	
Satd. Flow (perm)	1770	3539	1536	1770	3512		1681	1666			1719	
Volume (vph)	116	883	650	176	930	34	581	95	55	38	163	120
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.85	0.85	0.85
Adj. Flow (vph)	129	981	722	196	1033	38	638	104	60	45	192	141
RTOR Reduction (vph)	0	0	144	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	129	981	578	196	1071	0.	406	396	0	0	378	0
Confl. Peds. (#/hr)			5			2	10		2	2		10
Heavy Vehicles (%)	2%	2%	3%	2%	2%	6%	2%	2%	6%	13%	2%	2%
Turn Type	Prot		Perm	Prot			Split		······································	Split		
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	e S	_	2				-₹ -		ž.			
Actuated Green, G (s)	9.5	38.0	38.0	13.0	41.5		18.0	18.0			22.0	
Effective Green, g (s)	9.5	39.0	39.0	13.0	42.5		18.0	18.0			22.0	
Actuated g/C Ratio	0.09	0.36	0.36	0.12	0.39		0.17	0.17			0.20	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	4.0			4.0	
Vehicle Extension (s)	1.5	2.0	2.0	1.5	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	156	1278	555	213	1382		280	278		<u> </u>	350	
v/s Ratio Prot	0.07	0.28	500	0.11	c0.30		c0.24	0.24			c0.22	di e
v/s Ratio Perm	0.07	0.20	c0.38	0.11	00.00		00.L-1	U. <u> </u>			OU.LL	
v/c Ratio	0.83	0.77	1.04	0.92	0.77		1.45	1.42			1.08	
Uniform Delay, d1	48.4	30.5	34.5	47.0	28.6		45.0	45.0			43.0	
Progression Factor	1.00	1.00	1.00	0.83	0.75		1.00	1.00			1.00	
Incremental Delay, d2	27.5	4.5	49.5	35.5	3.7		221.4	210.7			71.1	
Delay (s)	76.0	35.0	84.0	74.5	25.1	tyres in	266.4	255.7			114.1	
Level of Service	, 0.0 E	00.0 C	F	7 T.S	C		F	<b>L</b> 00.7			F	
Approach Delay (s)	_	57.2		- 1. to -	32.7		•	261.1			114.1	
Approach LOS		E		a safe	C			F			F	
• •	w-10-100 o construction	<b>–</b>	wardon was a standard on the				vision and the Wilder		and the second s	A-PO-00-1-00-00-00-00-00-00-00-00-00-00-00-0		to Lossinia in March
Intersection Summary												
HCM Average Control D			93.2	F	ICM Le	vel of Se	ervice		F			
HCM Volume to Capacit	-		1.07									
Actuated Cycle Length (			108.0			ost time			12.0			
Intersection Capacity Ut	ilization		86.4%	Į,	CU Lev	el of Ser	vice		E			
Analysis Period (min)			15									
c Critical Lane Group						se di Tanàna						

	•	<b>→</b>	<b>←</b>	*	-	4	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ተተ	<b>个</b> 个		ሻ	7	
ldeal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95	0.95		1.00	1.00	
Frt		1.00	1.00		1.00	0.85	
Flt Protected		1.00	1.00		0.95	1.00	
Satd. Flow (prot)		3539	3539		1736	1583	
Fit Permitted		1.00	1.00		0.95	1.00	and the second of the second o
Satd. Flow (perm)		3539	3539		1736	1583	
Volume (vph)	0	1111	936	0	136	310	
Peak-hour factor, PHF	0.89	0.89	0.85	0.85	0.89	0.89	
Adj. Flow (vph)	0	1248	1101	0	153	348	
RTOR Reduction (vph)	0	0	0	0	0	25	
Lane Group Flow (vph)	. 0	1248	1101	0	153	323	
Heavy Vehicles (%)	2%	2%	2%	2%	4%	2%	
Turn Type	and the					Perm	
Protected Phases		2	6		4		
Permitted Phases				100		4	
Actuated Green, G (s)		70.8	70.8		28.0	28.0	
Effective Green, g (s)		71.4	71.4		28.6	28.6	
Actuated g/C Ratio		0.66	0.66		0.26	0.26	No. 10 Percentage of the Control of
Clearance Time (s)		4.6	4.6		4.6	4.6	
Vehicle Extension (s)		6.8	7.5		5.5	5.5	
Lane Grp Cap (vph)	sail th	2340	2340		460	419	
v/s Ratio Prot		c0.35	0.31		0.09		
v/s Ratio Perm						c0.20	
v/c Ratio		0.53	0.47		0.33	0.77	antina di Karamatan di Karamatan di Karamatan di Karamatan di Karamatan di Karamatan di Karamatan di Karamatan Karamatan di Karamatan di Karama
Uniform Delay, d1		9.6	9.0		32.0	36.7	and the state of the second state of the secon
Progression Factor		0.47	0.17		1.00	1.00	
Incremental Delay, d2		0.6	0.4		1.0	10.3	
Delay (s)		5.1	1.9		33.1	47.0	
Level of Service		A	Α		С	D	
Approach Delay (s)		5.1	1.9		42.7		
Approach LOS		Α	Α		D	 	
Intersection Summary							
<b>HCM Average Control Del</b>			10.5	H	CM Lev	el of Se	ervice B
<b>HCM Volume to Capacity</b>			0.60	* * * * * * * * * * * * * * * * * * * *			
Actuated Cycle Length (s)			108.0	Sı	ım of lo	st time	(s) 8.0
Intersection Capacity Utiliz	ation	5	1.7%			of Sen	
Analysis Period (min)			15	1,2 65			
c Critical Lane Group							

	۶	<b>→</b>	*	•	<b>←</b>	4	4	<b>†</b>	<i>&gt;</i>	-	<b></b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBŤ	NBR	SBL	SBT	SBR
Lane Configurations	ă	<b>个</b> 个	7	75	<b>ተ</b> ጮ		ሻ	个个	7	7	↑↑	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util, Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	* * * * * * * * * * * * * * * * * * *	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
FIt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1561	1752	3453		1770	3539	1524	1770	3539	1583
Fit Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1561	1752	3453		1770	3539	1524	1770	3539	1583
Volume (vph)	177	614	456	176	510	85	205	392	157	96	629	221
Peak-hour factor, PHF	0.92	0.92	0.92	0.78	0.78	0.78	0.90	0.90	0.90	0.87	0.87	0.87
Adj. Flow (vph)	192	667	496	226	654	109	228	436	174	110	723	254
RTOR Reduction (vph)	0	0	99	0	0	0	0	0	34	0	0	51
Lane Group Flow (vph)	192	667	397	226	763	0	228	436	140	110	723	203
Confl. Peds. (#/hr)			2			7			4			
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	2%	2%	4%	2%	2%	2%
Turn Type	Prot	•	Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8		• • •	4
Actuated Green, G (s)	20.0	36.0	36.0	14.7	30.7		15.4	29.5	29.5	9.8	23.9	23.9
Effective Green, g (s)	20.0	37.0	37.0	14.7	31.7		15.4	30.5	30.5	9.8	24.9	24.9
Actuated g/C Ratio	0.19	0.34	0.34	0.14	0.29		0.14	0.28	0.28	0.09	0.23	0.23
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	1.5	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lane Grp Cap (vph)	328	1212	535	238	1014		252	999	430	161	816	365
v/s Ratio Prot	0.11	0.19		c0.13	c0.22		c0.13	0.12		0.06	c0.20	
v/s Ratio Perm			c0.25						0.09			0.13
v/c Ratio	0.59	0.55	0.74	0.95	0.75		0.90	0.44	0.32	0.68	0.89	0.56
Uniform Delay, d1	40.2	28.8	31.3	46.3	34.6		45.6	31.7	30.6	47.6	40.2	36.7
Progression Factor	0.61	0.48	0.39	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	1.6	7.9	43.5	5.2		31.9	0.1	0.2	9.2	11.1	1.0
Delay (s)	25.9	15.3	20.1	89.8	39.7		77.5	31.8	30.8	56.7	51.2	37.7
Level of Service	С	В	С	F	D		E	С	С	E	D	D
Approach Delay (s)		18.5		e Marie	51.2			44.0		ng ng Pali Ng ng Ng Ng	48.6	
Approach LOS		В			D			D			D	
Intersection Summary												
HCM Average Control De			38.8	H	ICM Lev	el of Se	ervice		D			
<b>HCM Volume to Capacity</b>			0.82									
Actuated Cycle Length (s			108.0		Sum of lo				12.0			
Intersection Capacity Util	ization		74.3%	- 10	CU Leve	el of Ser	vice		D			
Analysis Period (min)			15									
c Critical Lane Group												

Ģ	•	•	<b>†</b>	<i>&gt;</i>	-	<b>↓</b>	
Movement WBL	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	<u>እ</u> ካ	7	<b>∱</b> }		14.14	∱	
Ideal Flow (vphpl) 1900		1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	<del>-</del> .	4.0	4.0	
Lane Util. Factor	0.97	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.85	0.91		1.00	1.00	
Flt Protected	0.95	1.00	1.00		0.95	1.00	and the second of the second o
Satd. Flow (prot)	3433	1583	3199		3433	1863	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	Salah merendakan dian berada pada berada
Satd. Flow (perm)	3433	1583	3199		3433	1863	
Volume (vph) 3	564	534	181	261	851	215	
Peak-hour factor, PHF 0.83	0.83	0.83	0.76	0.76	0.88	0.88	
Adj. Flow (vph) 4		643	238	343	967	244	
RTOR Reduction (vph) 0		92	0	0	0	0	
Lane Group Flow (vph) 0	684	551	581	0	967	244	
Confl. Peds. (#/hr)				2	00,		
Turn Type Perm	· (	custom		· ·	Prot		
Protected Phases	3	1348	2		14	6	
Permitted Phases 3		3					
Actuated Green, G (s)	23.3	65.1	23.2		37.2	57.6	
Effective Green, g (s)	23.9	65.7	24.8		37.8	59.2	
Actuated g/C Ratio	0.24	0.67	0.25		0.38	0.60	
Clearance Time (s)	4.6		5.6			5.6	en jarok er en en en en en en en en en en en en en
Vehicle Extension (s)	2.0		3.5			3.5	
Lane Grp Cap (vph)	833	1056	805		1317	1120	
v/s Ratio Prot		c0.35	c0.18		c0.28	0.13	
v/s Ratio Perm	0.20					- 11 T	· Commence of the commence of
v/c Ratio	0.82	0.52	0.72		0.73	0.22	
Uniform Delay, d1	35.3	8.4	33.7		26.0	9.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.2	0.5	3.3		2.2	0.1	
Delay (s)	41.5	8.9	37.0		28.3	9.1	
Level of Service	D	Α	- D		C	Α	
Approach Delay (s)	25.7		37.0			24.4	
Approach LOS	C		D			С	· 真性的医性的 (1) 经1000年代的
Intersection Summary							
HCM Average Control Delay		27.3	Н	CM Lev	el of Se	rvice	C
HCM Volume to Capacity ratio		0.72			- 20 T F F	FFFT.	
Actuated Cycle Length (s)		98.5	Sı	um of lo	st time	(s)	8.0
Intersection Capacity Utilization		64.7%			of Serv		C
Analysis Period (min)		15					
c Critical Lane Group							

Movement   EBL   EBR   NBL   NBL   SBT   SBR   SBR2   SEL   SER   Lane Configurations   NY		۶	•	*	<b>†</b>	<b>↓</b>	4	¥J	•	7	
Lane Configurations   NY   1900   1	Movement	EBL	EBR	NBL	NBT	SBT	SBR	SBR2	SEL	SER	
Idea   Flow (vphpl)   1900											
Total Lost time (s)			1900				1900	1900	1900	1900	
Frit Protected 0.96 0.95 1.00 1.00 0.96 Fit Protected 0.96 0.95 1.00 1.00 Satd. Flow (prot) 3404 1770 3539 3386 Fit Permitted 0.96 0.95 1.00 1.00 1.00 Satd. Flow (perm) 3404 1770 3539 3386 Fit Permitted 0.96 0.95 1.00 1.00 1.00 Satd. Flow (perm) 3404 1770 3539 3386 Fit Permitted 0.96 0.95 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Incremental Delay, d2 2.6 219 512 919 0 342 0 0 0 Peak-hour factor, PHF 0.89 0.92 0.92 0.84 0.84 0.84 0.92 0.92 0.92 Adj. Flow (vph) 272 29 238 557 1094 0 407 0 0 0 Fit Protected Phases 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0		4.0		4.0	4.0	4.0					
Fit Protected 0.96	Lane Util. Factor	0.97		1.00	0.95	0.95				1.	
Satd. Flow (prot) 3404 1770 3539 3386 Fit Permitted 0.96 0.95 1.00 1.00 Satd. Flow (perm) 3404 1770 3539 3386  Volume (vph) 242 26 219 512 919 0 342 0 0 Peak-hour factor, PHF 0.89 0.89 0.92 0.92 0.84 0.84 0.84 0.92 0.92 Adj. Flow (vph) 2772 29 238 557 1094 0 407 0 0 RTOR Reduction (vph) 0 0 0 0 0 0 0 0 0 0 0 Lane Group Flow (vph) 301 0 238 557 1501 0 0 0 0 Lane Group Flow (vph) 301 0 238 557 1501 0 0 0 0 0 Lane Group Flow (vph) 301 0 238 557 1501 0 0 0 0 0 Lane Group Flow (vph) 301 0 538 557 1501 0 0 0 0 0 0 Lane Group Flow (vph) 301 0 538 557 1501 0 0 0 0 0 0 0 Lane Group Flow (vph) 301 0 538 557 1501 0 0 0 0 0 0 0 0 0 0 Lane Group Flow (vph) 301 0 538 557 1501 0 0 0 0 0 0 0 0 0 0 Lane Group Flow (vph) 301 0 538 557 1501 0 0 0 0 0 0 0 0 0 0 0 Lane Group Flow (vph) 301 0 538 557 1501 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Frt	0.99		1.00	1.00	0.96					
Fit Permitted	Flt Protected				and the state of the state of						
Satd. Flow (perm)   3404   1770   3539   3386	Satd. Flow (prot)										
Volume (vph)	Flt Permitted										
Peak-hour factor, PHF   0.89   0.89   0.92   0.92   0.84   0.84   0.84   0.92   0.92	Satd. Flow (perm)	3404				3386					
Adj. Flow (vph)	Volume (vph)		26				and the second of the second				
RTOR Reduction (vph) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Peak-hour factor, PHF		0.89							0.92	
Lane Group Flow (vph) 301 0 238 557 1501 0 0 0 0 0 0 Heavy Vehicles (%) 2% 3% 2% 2% 2% 2% 3% 2% 2% 2% 2% 2% 2% 2% 2% 2% 2% 2% 2% 2%	Adj. Flow (vph)	272	29	238	557	1094	0	407	0	0	
Heavy Vehicles (%)	RTOR Reduction (vph)		0		_	-	0	0	_		
Turn Type	Lane Group Flow (vph)							-			
Protected Phases	Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%	3%	2%	2%	
Permitted Phases         Actuated Green, G (s) 17.6       15.0       53.7       35.4         Effective Green, g (s) 17.8       14.7       55.0       36.3         Actuated g/C Ratio 0.22       0.18       0.68       0.45         Clearance Time (s) 4.2       3.7       5.3       4.9         Vehicle Extension (s) 8.0       2.0       4.9       5.7         Lane Grp Cap (vph) 750       322       2409       1521         v/s Ratio Prot co.0.9       c0.13       0.16       c0.44         v/s Ratio Prot co.0.9       c0.13       0.16       c0.44         v/s Ratio Prot co.0.9       c0.03       0.99         Uniform Delay, d1       26.9       31.2       4.9       22.0         Progression Factor 1.00       1.00       1.00       1.00         Incremental Delay, d2       1.5       7.4       0.1       20.0         Delay (s)       28.4       38.7       5.0       42.0         Level of Service       C       D       A         Approach LOS       C       B       D       A											

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Movement	SBR
Land Configurations	
Ideal Flow (vphpl)	
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co
Flpb, ped/bikes	
Frt	en en en en en en en en en en en en en e
Flt Protected	
Satd. Flow (prot)	en de seu al como a como en la como en esperante de la como en en en en en en en en en en en en en
Flt Permitted Satd. Flow (perm)	
Volume (vph)	
Peak-hour factor, PHF	0.82
Adj. Flow (vph)	
RTOR Reduction (vph)	
Lane Group Flow (vph)	
Confl. Peds. (#/hr)	$f{2}$
Heavy Vehicles (%)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co
v/s Ratio Prot	
v/s Ratio Perm	gang di kacamatan di Kabupatèn dan Kabupatèn Kabupatèn dan Kabupatèn Kabupatèn Kabupatèn Kabupatèn Kabupatèn K
v/c Ratio Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	in the first of the second of the second of the second of the second of the second of the second of the second
Delay (s)	1. 4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	
milersection summary	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBA	SBL	SBT	SBR
Lane Configurations					4	7	à	↑↑			作	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor					1.00	1.00	1.00	0.95			0.95	
Frpb, ped/bikes					1.00	0.98	1.00	1.00			1.00	
Flpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	
Frt Flt Protected					1.00	0.85	1.00	1.00			0.97	
Satd. Flow (prot)					0.98	1.00	0.95	1.00			1.00	
Flt Permitted					1822	1560	1770	3539			3425	
Satd. Flow (perm)					0.98 1822	1.00	0.95	1.00	tain y		1.00	
Volume (vph)	0	0	0	150		1560	1770	3539			3425	
Peak-hour factor, PHF	0.92	0.92	0.92	153 0.85	189 0.85	76	69	551	0	0	885	201
Adj. Flow (vph)	0.32	0.32	0.92	180	222	0.85 89	0.97	0.97	0.97	0.82	0.82	0.82
RTOR Reduction (vph)	0	0	0	0	0	71	71 0	568	0	0	1079	245
Lane Group Flow (vph)	. 0	Ö	0	0	402	18	71	0 568	0	0	26	0
Confl. Peds. (#/hr)		v		. 0	402	2	7.1	500	U	0	1298	0
Turn Type	-			Perm		Perm	Prot					2
Protected Phases				Cim	8	i emi	5 7	172			_	
Permitted Phases				8	J	8	37	172			6	
Actuated Green, G (s)				, ,	17.0	17.0	26.7	62.2			30.6	
Effective Green, g (s)					17.6	17.6	26.9	62.4			31.5	
Actuated g/C Ratio					0.20	0.20	0.31	0.71			0.36	
Clearance Time (s)					4.6	4.6					4.9	
Vehicle Extension (s)					3.0	3.0					4.0	
Lane Grp Cap (vph)	- " . " . "				364	312	541	2509	-		1226	
v/s Ratio Prot							0.04	c0.16			c0.38	
v/s Ratio Perm					0.22	0.01					33.00	
v/c Ratio					1.10	0.06	0.13	0.23			1.06	
Uniform Delay, d1					35.2	28.5	22.1	4.4			28.2	
Progression Factor					0.79	0.81	2.33	0.00			1.16	
Incremental Delay, d2					74.9	0.1	0.0	0.0			36.1	
Delay (s)					102.7	23.1	51.5	0.0			68.8	
Level of Service		4122			F	C	D	Α			E	
Approach Delay (s)		0.0			88.3			5.7			68.8	
Approach LOS		<b>.</b> A			F	in and the second		Α			,	
Intersection Summary												
<b>HCM Average Control De</b>		4 5 T	56.3	Н	CM Lev	el of Se	rvice		Е			
<b>HCM Volume to Capacity</b>			0.78						<del></del>			
Actuated Cycle Length (s)			0.88	Sı	um of lo	st time	(s)		12.0			
Intersection Capacity Utilization 64.3% ICU Level of Service C												
Analysis Period (min)			15									
c Critical Lane Group												

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Movement	EBL	EBT	EBA	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	¥	₽						<b>^</b>	-		Ä	<b>^</b>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			4.0	4.0
Lane Util. Factor	1.00	1.00	7					0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.99						1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00						1.00			1.00	1.00
Frt	1.00	0.93						0.97			1.00	1.00
Fit Protected	0.95	1.00						1.00			0.95	1.00
Satd. Flow (prot)	1770	1703						3406			1736	3539
FIt Permitted	0.95	1.00						1.00		*	0.41	1.00
Satd. Flow (perm)	1770	1703						3406			754	3539
Volume (vph)	143	138	135	0	0	0	0	475	136	2	88	948
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84
Adj. Flow (vph)	159	153	150	0	0	0	0	490	140	2	105	1129
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	159	303	0	0	0	0	0	630	0	0	107	1129
Confl. Peds. (#/hr)	- 5		2	4.5.			1 = 2 2		6			
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%
Turn Type	Perm									Prot	Prot	
Protected Phases		7						2		1	18	568
Permitted Phases	7											
Actuated Green, G (s)	15.0	15.0			4 1			16.7			37.0	62.8
Effective Green, g (s)	16.6	16.6						17.6			37.8	63.4
Actuated g/C Ratio	0.19	0.19						0.20			0.43	0.72
Clearance Time (s)	5.6	5.6						4.9				
Vehicle Extension (s)	3.0	3.0					<u> </u>	4.0				<u>. 5 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -</u>
Lane Grp Cap (vph)	334	321						681			549	2550
v/s Ratio Prot		c0.18						c0.18			0.04	c0.32
v/s Ratio Perm	0.09										0.04	
v/c Ratio.	0.48	0.94						0.93			0.19	0.44
Uniform Delay, d1	31.8	35.2						34.6			15.3	5.0
Progression Factor	1.00	1.00				1 - 1		1.00			0.63	0.19
Incremental Delay, d2	1.1	35.5						20.4			0.0	0.0
Delay (s)	32.9	70.7						54.9			9.7	1.0
Level of Service	С	·E						_ D			Α	A
Approach Delay (s)		57.7			0.0			54.9				1.7
Approach LOS		E			Α			D				Α
Intersection Summary												
HCM Average Control D	elay		27.2	H	HCM Le	vel of S	ervice		С			
HCM Volume to Capacit			0.64									
Actuated Cycle Length (			88.0		Sum of	ost time	e (s)		8.0			
Intersection Capacity Ut		1	64.3%			el of Se			С	197		
Analysis Period (min)			15									
c Critical Lane Group	#13 Co.					interior in the	100					
and the second s			*								* -	



130 (2.13) (2.004.104.104.104.104.104.104.004.004.004	
Movement	SBR
Land Configurations	
Ideal Flow (vphpl)	. <b>1900</b> ng sa kalangang nahala sa pagmang sa <del>kalangan kalangan sa kalangan sa kalangan sa kalangan sa kalanga</del>
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes Frt	
Flt Protected	
Satd. Flow (prot)	
Fit Permitted	
Satd. Flow (perm)	
Volume (vph)	0
Peak-hour factor, PHF	0.84
Adj. Flow (vph)	
RTOR Reduction (vph)	
Lane Group Flow (vph)	
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	2%
Turn Type	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de Anno de la companya de la companya de la companya de la companya de la companya de la companya de la companya
Protected Phases Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	and the group of the control of the
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	皇帝:"巴基斯,从多名为"英国南部军","赵国",并为"英国","一""英国","五"
Incremental Delay, d2	
Delay (s)	range at the second of the second of the second of the second of the second of the second of the second of the The second of the second of
Level of Service	
Approach Delay (s) Approach LOS	
Intersection Summary	

	۶		•	•	<b>←</b>	•	₽ì	4	<b>†</b>	<i>&gt;</i>	L♣	<b>&gt;</b>
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations	ኝ	<b>个</b> 个	7	Ys.	<b>↑</b> ₽			Ä	<b>↑</b> ↑			<b>1</b>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0			4.0
Lane Util, Factor	1.00	0.95	1,00	1.00	0.95			1.00	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.98			1.00	0.98			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		300	0.95
Satd. Flow (prot)	1770	3471	1561	1770	3475			1770	3459			1770
Flt Permitted	0.95	1.00	1.00	0.95	1.00		14 2 3	0.95	1.00			0.95
Satd. Flow (perm)	1770	3471	1561	1770	3475			1770	3459			1770
Volume (vph)	132	343	92	101	401	50	7	67	402	60	3	58
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.80	0.80	0.80	0.80	0.79	0.79
Adj. Flow (vph)	142	369	99	116	461	57	9	84	502	75	4	73
RTOR Reduction (vph)	0	Ó	79	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	142	369	20	116	518	0 -	0	93	577	0	0	77
Confl. Peds. (#/hr)			2			2				2		
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Prot		Perm	Prot			Prot	Prot	,		Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	8.9	17.1	17.1	8.4	16.6			6,4	40.6			6.1
Effective Green, g (s)	8.4	17.5	17.5	7.9	17.0			5.9	41.0			5.6
Actuated g/C Ratio	0.10	0.20	0.20	0.09	0.19			0.07	0.47			0.06
Clearance Time (s)	3.5	4.4	4.4	3.5	4.4			3.5	4.4			3.5
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0	San Barriera Barriera		1.0	2.0			1.0
Lane Grp Cap (vph)	169	690	310	159	671			119	1612			113
v/s Ratio Prot	c0.08	0.11		0.07	c0.15			c0.05	0.17			0.04
v/s Ratio Perm			0.01									
v/c Ratio	0.84	0.53	0.06	0.73	0.77			0.78	0.36			0.68
Uniform Delay, d1	39.1	31.6	28.6	39.0	33.7			40.4	15.1			40.3
Progression Factor	1.02	1.47	3.22	1.00	1.00		*	1.00	0.62			1.00
Incremental Delay, d2	21.3	0.3	0.0	13.2	5.0			25.1	0.6			12.6
Delay (s)	61.3	46.7	92.2	52.2	38.7			65.4	10.0			53.0
Level of Service	E	D	F	D	D			E	Α			D
Approach Delay (s)		57.5			41.2				17,7			
Approach LOS		Ε			D				В			
Intersection Summary												
HCM Average Control D	elay		30.7	H	ICM Lev	el of Se	rvice		С			
<b>HCM Volume to Capacit</b>	y ratio		0.65									
Actuated Cycle Length (s	s)		88.0	8	Sum of lo	ost time	(s)		16.0			
Intersection Capacity Uti			58.0%	10	CU Leve	el of Serv	vice 🗀		В			
Analysis Period (min)			15						•			
c Critical Lane Group	F											

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	<b>.</b>				 				
Movement	SBT	SBR							
Lan Configurations	<b>*</b>								
Ideal Flow (vphpl)	1900	1900							
Total Lost time (s)	4.0								
Lane Util. Factor	0.91								
Frpb, ped/bikes	1.00								
Flpb, ped/bikes Frt	1.00								
	0.97								
Flt Protected	1.00								
Satd. Flow (prot) Flt Permitted	4937								
The state of the s	1.00	•				1. A. A			
Satd. Flow (perm)	4937				 · ·				
Volume (vph)	804	174						2	
Peak-hour factor, PHF	0.79	0.79							
Adj. Flow (vph) RTOR Reduction (vph)	1018	220							
Lane Group Flow (vph)	0 1238	0							
Confl. Peds. (#/hr)	1238	0							
Heavy Vehicles (%)	2%	2%							
Turn Type	Z /0	2.70			 		<u> </u>		
Protected Phases	6								
Permitted Phases	Ö							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Actuated Green, G (s)	40.3								
Effective Green, g (s)	40.7								
Actuated g/C Ratio	0.46								
Clearance Time (s)	4.4		e de la companya de l						
Vehicle Extension (s)	2.0								
Lane Grp Cap (vph)	2283			 	 		<u> </u>	<u> </u>	
v/s Ratio Prot	c0.25								
v/s Ratio Perm	. OO.LO			10.00		· 14 .			
v/c Ratio	0.54								
Uniform Delay, d1	17.0								
Progression Factor	1.00								
Incremental Delay, d2	0.9								
Delay (s)	17.9								
Level of Service	В								
Approach Delay (s)	20.0					1.1			
Approach LOS	В				es Mercello Transfer				
Intersection Summary									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations					47>			Ř	<b>^</b>			<b>^</b>
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0	4.0			4.0
Lane Util. Factor					0.95			1.00	0.95			0.95
Frpb, ped/bikes					1.00			1.00	1.00			1.00
Flpb, ped/bikes					1.00	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1.00	1.00			1.00
Frt					0.96			1.00	1.00			1.00
Fit Protected					0.98			0.95 1770	1.00 3505			1.00
Satd. Flow (prot)					3328 0.98			0.27	1.00		egrania .	3539 1.00
Fit Permitted	100				3328			508	3505			3539
Satd. Flow (perm)	0	0	0	144	193	127	1	61	409	0	0	840
Volume (vph) Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.83	0.83	0.83	0.83	0.80	0.80
Adj. Flow (vph)	0.32	0.32	0.32	160	214	141	1	73	493	0.00	0.00	1050
RTOR Reduction (vph)	Ö	0	0	0	0	0	0	0	0	Ö	Ö	0
Lane Group Flow (vph)	Ö	Ŏ	Ö	ŏ	515	0	0	74	493	0	0	1050
Confl. Peds. (#/hr)	-					2						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%
Turn Type				Perm			Prot	Prot				
Protected Phases					3		5	4 5	124			6
Permitted Phases				3								
Actuated Green, G (s)				1.	18.0			24.4	60.8			27.1
Effective Green, g (s)					18.6			25.4	61.4			28.0
Actuated g/C Ratio		1 7 7			0.21			0.29	0.70			0.32
Clearance Time (s)					4.6							4.9
Vehicle Extension (s)	e Talika ika s		<u> </u>		3.0		<u> </u>				<u> 1997 (1997)</u>	4.0
Lane Grp Cap (vph)					703			273	2446			1126
v/s Ratio Prot					0.45			c0.03	c0.14		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	c0.30
v/s Ratio Perm					0.15 0.73			c0.05	0.20			0.93
v/c Ratio					32.4	1.*		26.1	4.7		1 71	29.1
Uniform Delay, d1 Progression Factor	1				1.00			1.54	0.21		24	0.59
Incremental Delay, d2					4.0			0.5	0.0			13.3
Delay (s)				and year	36.3			40.7	1.0		400	30.3
Level of Service					D			D	Α			С
Approach Delay (s)		0.0			36.3		13 A.		6.2			26.9
Approach LOS		Α			D				Α	*		C
Intersection Summary												
HCM Average Control Do	elay		23.9	F	ICM Lev	el of Se	rvice		С			
<b>HCM Volume to Capacity</b>	y ratio		0.62						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Actuated Cycle Length (s			88.0			ost time			12.0			
Intersection Capacity Util	lization		53.6%	:: 10	CU Leve	el of Ser	vice		Α			
Analysis Period (min)	* 4.		15									
c Critical Lane Group												



Movement	SBR								Mar Salahan arang	0.0000.0000.0000
Land Configurations	7									
Ideal Flow (vphpl)	1900									
Total Lost time (s)	4.0									
Lane Util. Factor	1.00									
Frpb, ped/bikes	0.98						1			
Flpb, ped/bikes	1.00									
Frt	0.85									
FIt Protected	1.00									
Satd. Flow (prot)	1558									
Flt Permitted	1.00									
Satd. Flow (perm)	1558									
Volume (vph)	164						7 7 7			
Peak-hour factor, PHF	0.80						* * * * * * * * * * * * * * * * * * * *			
Adj. Flow (vph)	205									
RTOR Reduction (vph)	41									
Lane Group Flow (vph)	164									
Confl. Peds. (#/hr)	3						•			
Heavy Vehicles (%)	2%	Aut by			- 45. 					
Turn Type	Perm									<u>-</u>
Protected Phases										
Permitted Phases	6									
Actuated Green, G (s)	27.1									
Effective Green, g (s)	28.0									
Actuated g/C Ratio	0.32	**								
Clearance Time (s)	4.9									
Vehicle Extension (s)	4.0		<u> </u>			· · · · · · · · · · · · · · · · · · ·	3 T T		5	
Lane Grp Cap (vph) v/s Ratio Prot	496									<del></del>
v/s Ratio Perm	0.11		and the second	and the state of			1.			
v/c Ratio	0.11									
Uniform Delay, d1	22.9									
Progression Factor	0.33									
Incremental Delay, d2	1.5									
Delay (s)	9.2									
Level of Service	A	the second of						6 - 2 -		
Approach Delay (s)	•									
Approach LOS							and at it.			
Intersection Summary										
										100

	٠	<b>→</b>	*	•	<b>←</b>	4	1	<b>†</b>	<i>&gt;</i>	L	<b>/</b>	<b>↓</b>
Movement	EBL	EBT	EBA	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		લી	7					十个	7		ă	<b>^</b>
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0					4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00				Jan 19	0.95	1.00		1.00	0.95
Frpb, ped/bikes		1.00	0.98					1.00	0.97		1.00	1.00
Flpb, ped/bikes		1.00	1.00			11.		1.00	1.00		1.00	1.00
Frt		1.00 0.99	0.85			, essa		1.00	0.85 1.00		1.00 0.95	1.00 1.00
Fit Protected		1779	1.00 1530					3539	1541		1753	3505
Satd. Flow (prot) Fit Permitted		0.99	1.00					1.00	1.00		0.49	1.00
Satd. Flow (perm)		1779	1530					3539	1541		904	3505
Volume (vph)	65	172	125	0	0	0	0	404	156	2	231	752
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.92	0.92	0.89	0.89	0.89	0.82	0.82	0.82
Adj. Flow (vph)	76	202	147	0.52	0.52	0.52	0.03	454	175	2	282	917
RTOR Reduction (vph)	0	0	29	0	Ö	0	Ö	0	35	0	0	0
Lane Group Flow (vph)	. 0	278	118	0	Ö	Ö	0	454	140	Ŏ	284	917
Confl. Peds. (#/hr)			2	٠.	·				3	•	:	• • • • • • • • • • • • • • • • • • • •
Heavy Vehicles (%)	9%	4%	4%	2%	2%	2%	2%	2%	2%	2%	3%	3%
Turn Type	Perm		Perm						Perm	Prot	Prot	
Protected Phases		4					<i>y</i>	2		1	13	356
Permitted Phases	4		4						2			
Actuated Green, G (s)		16.0	16.0					25.2	25.2		29.0	62.5
Effective Green, g (s)		16.6	16.6					26.1	26.1		29.3	63.4
Actuated g/C Ratio		0.19	0.19					0.30	0.30		0.33	0.72
Clearance Time (s)		4.6	4.6					4.9	4.9			
Vehicle Extension (s)		3.0	3.0		<u> </u>	kija sasik		4.0	4.0			<u> </u>
Lane Grp Cap (vph)		336	289					1050	457		404	2525
v/s Ratio Prot								c0.13			c0.09	c0.26
v/s Ratio Perm		0.16	0.08					ar illande	0.09		c0.15	2 - 4
v/c Ratio		0.83	0.41					0.43	0.31		0.70	0.36
Uniform Delay, d1		34.3	31.4					25.0	23.9		26.2	4.7
Progression Factor		1.06	1.10			14.1		1.00	1.00		1.61	0.66
Incremental Delay, d2		11.0	0.6					1.3	1.7		1.6	0.0
Delay (s)		47.5	35.2					26.3	25.7		43.9	-3.1
Level of Service		D	D		0.0			C	С		D	Α
Approach Delay (s)		43.2			0.0			26.1			Net of the	12.8
Approach LOS		D			Α			C				В
Intersection Summary												
HCM Average Control D			22.2	H	CM Lev	el of Se	ervice		C			
HCM Volume to Capacity			0.64			12.2						
Actuated Cycle Length (s			88.0			st time			16.0			
Intersection Capacity Uti	IJZation	4.5	53.6%	· · · IC	U Leve	el of Ser	vice		Α			
Analysis Period (min)			15					ele el	e a sum			
c Critical Lane Group												



Movement	SBR	
Land Configurations		
Ideal Flow (vphpl)	1900	
Total Lost time (s) Lane Util. Factor		
Frpb, ped/bikes		
Flpb, ped/bikes		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Volume (vph)		
Peak-hour factor, PHF	0.82	
Adj. Flow (vph)		
RTOR Reduction (vph)	0	
Lane Group Flow (vph)		
Confl. Peds. (#/hr)	00/	
Heavy Vehicles (%) Turn Type	2%	
Protected Phases		_
Permitted Phases		
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot	and and the care that the first first of the care of the first section is	
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1 Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)		
Approach LOS		
Intersection Summary		Opportunities of the second
a de secuci Sunandi y		

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Movement	EBL	EBT	EBA	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations	Ä	个个	7	À	<b>^</b>	7	Ā	ተተ <sub>ጉ</sub>			Ä	ተተጉ
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91			1.00	0.91
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96			1.00	0.99
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1671	3471	1525	1719	3505	1530	1770	4843			1770	4985
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	1671	3471	1525	1719	3505	1530	1770	4843			1770	4985
Volume (vph)	99	211	106	262	278	205	73	881	288	7	97	1308
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.75	0.75	0.75
Adj. Flow (vph)	108	229	115	298	316	233	81	979	320	9	129	1744
RTOR Reduction (vph)	0	0	23	0	0	47	0	29	0	0	0	0
Lane Group Flow (vph)	108	229	92	298	316	186	81	1270	0	0	138	1844
Confl. Peds. (#/hr)			16			2			3			
Heavy Vehicles (%)	8%	4%	2%	5%	3%	4%	2%	2%	5%	2%	2%	3%
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot	Prot	
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8						
Actuated Green, G (s)	8.9	15.2	15.2	19.8	26.1	26.1	7.4	30.4			11.4	34.4
Effective Green, g (s)	8.6	16.1	16.1	19.5	27.0	27.0	7.1	31.3			11.1	35.3
Actuated g/C Ratio	0.09	0.17	0.17	0.21	0.29	0.29	0.08	0.33			0.12	0.38
Clearance Time (s)	3.7	4.9	4.9	3.7	4.9	4.9	3.7	4.9			3.7	4.9
Vehicle Extension (s)	2.0	5.4	5.4	2.0	5.3	5.3	2.0	4.5			2.0	5.2
Lane Grp Cap (vph)	153	595	261	357	1007	439	134	1613			209	1872
v/s Ratio Prot	0.06	0.07		c0.17	0.09		0.05	0.26			c0.08	c0.37
v/s Ratio Perm			0.06			c0.12						
v/c Ratio	0.71	0.38	0.35	0.83	0.31	0.42	0.60	0.79			0.66	0.99
Uniform Delay, d1	41.5	34.6	34.3	35.7	26.2	27.2	42.1	28.3			39.6	29.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	11.4	1.0	1.9	14.7	0.4	1.5	5.2	2.9			5.9	17.4
Delay (s)	52.9	35.5	36.3	50.5	26.7	28.7	47.3	31.3			45.6	46.5
Level of Service	D	D	D	. D	С	С	D	С			D D	D
Approach Delay (s)		39.9			35.6			32.2				46.4
Approach LOS		D			D			С				D
Intersection Summary			1									
HCM Average Control D	elav		39.6	ŀ	ICM Le	vel of Se	rvice		D			
HCM Volume to Capacity		1.	0.79									
Actuated Cycle Length (s			94.0	9	um of l	ost time	(s)		12.0			
Intersection Capacity Uti			70.8%			el of Ser			С			
Analysis Period (min)	,•		15	. •								
c Critical Lane Group							s A. M					
and the second of the second o					*							



Movement	SBR
Land Claus (unbal)	1000
Ideal Flow (vphpl) Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
FIt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	75
Peak-hour factor, PHF	0.75
Adj. Flow (vph)	
RTOR Reduction (vph)	0
Lane Group Flow (vph)	
Confl. Peds. (#/hr)	4
Heavy Vehicles (%)	5%
Turn Type Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s) Approach LOS	
•	
Intersection Summary	

	•	<b>→</b>	7	*	4	4	4	†	<i>&gt;</i>	1	<b>↓</b>	لِر
Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	*	Ĩ,	J.	<b>4</b> %		P.	î. ∳			₽	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	•	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00 1.00	1.00 0.96			1.00 0.87	
Frt Ett Brotostad	1.00 0.95	1.00	0.85 1.00	1.00 0.95	1.00		0.95	1.00			1.00	
Fit Protected Satd. Flow (prot)	1767	3505	1533	1767	3517		1719	1655			1595	
Flt Permitted	0.48	1.00	1.00	0.45	1.00		0.95	1.00			1.00	100
Satd. Flow (perm)	892	3505	1533	838	3517		1719	1655			1595	
Volume (vph)	32	391	153	61	368	9	303	35	12	5	0	35
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.88	0.88	0.88	0.80	0.80	0.80
Adj. Flow (vph)	38	460	180	69	413	10	344	40	14	6	0.50	44
RTOR Reduction (vph)	Ö	0	36	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	38	460	144	69	423	0	344	54	0	0	96	0
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		
Heavy Vehicles (%)	2%	3%	3%	2%	2%	11%	5%	11%	7%	2%	2%	3%
Turn Type	Perm		Perm	Perm			Split			Split		
Protected Phases		2			6		8	8		7	7	
Permitted Phases	2		2	6								
Actuated Green, G (s)	18.0	18.0	18.0	18.0	18.0		18.0	18.0			5.0	
Effective Green, g (s)	19.9	19.9	19.9	19.9	19.9		18.2	18.2			5.2	
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.36		0.33	0.33			0.09	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		4.2	4.2			4.2	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	d Alegar		2.0	
Lane Grp Cap (vph)	321	1261	552	302	1266		566	545			150	
v/s Ratio Prot		c0.13			0.12		c0.20	0.03			c0.06	
v/s Ratio Perm	0.04		0.09	0.08						50 0		
v/c Ratio	0.12	0.36	0.26	0.23	0.33	A 4	0.61	0.10			0.64	
Uniform Delay, d1	11.8	13.0	12.5	12.3	12.9		15.6	12.9			24.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.2	0.2	0.3	0.5	0.2		2.1	0.1			6.8	
Delay (s)	12.1	13.3	12.9	12.9	13.1		17.7	13.0			30.9 C	
Level of Service	В	B	В	В	B		В	В				
Approach Delay (s)		13.1			13.1			17.1	of Profit		30.9	
Approach LOS		В			В			В			С	
Intersection Summary												
HCM Average Control D			15.1	H	ICM Lev	vel of Se	ervice		В			
HCM Volume to Capacity	y ratio		0.50						100			
Actuated Cycle Length (s	s)		55.3			ost time			12.0			
Intersection Capacity Uti	lization		55.3%	- 10	CU Leve	el of Ser	vice		В			
Analysis Period (min)			15									
c Critical Lane Group								1000				



Movement SBR2	
Lane Configurations	
Ideal Flow (vphpl) 1900	
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt The Control of th	
Flt Protected	
Satd. Flow (prot)	
Fit Permitted	
Satd. Flow (perm)	
Volume (vph) 37	
Peak-hour factor, PHF 0.80	
Adj. Flow (vph) 46	
RTOR Reduction (vph) 0	
Lane Group Flow (vph) 0	
Confl. Peds. (#/hr) 2	
Heavy Vehicles (%) 2%	
Turn Type	_
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s) Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio 3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	
antersection Summary	Ĺ

| Movement   EBL   EBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL   SBT   SBR   |--|
| Lane Configurations  |
| Ideal Flow (vphpl)         1900         40         4.0  |
| Lane Util. Factor       1.00       1.00       0.91       0.91         Frpb, ped/bikes       1.00       1.00       1.00       1.00         Flpb, ped/bikes       1.00       1.00       1.00       1.00         Frt       1.00       0.85       0.97       0.97         Flt Protected       0.95       1.00       1.00       1.00         Satd. Flow (prot)       1703       1313       4806       4851         Flt Permitted       0.95       1.00       1.00       1.00         Satd. Flow (perm)       1703       1313       4806       4851         Volume (vph)       370       0       187       0       0       0       879       243       0       1105       221         Peak-hour factor, PHF       0.90       0.90       0.92       0.92       0.92       0.93       0.93       0.93       0.77       0.77       0.77         Adj. Flow (vph)       411       0       208       0       0       0       0       945       261       0       1435       287         RTOR Reduction (vph)       0       0       8       0       0       0       0       0       0       0   |
| Frpb, ped/bikes         1.00         1.00         1.00           Flpb, ped/bikes         1.00         1.00         1.00           Frt         1.00         0.85         0.97         0.97           Flt Protected         0.95         1.00         1.00         1.00           Satd. Flow (prot)         1703         1313         4806         4851           Flt Permitted         0.95         1.00         1.00         1.00           Satd. Flow (perm)         1703         1313         4806         4851           Volume (vph)         370         0         187         0         0         0         879         243         0         1105         221           Peak-hour factor, PHF         0.90         0.90         0.92         0.92         0.92         0.93         0.93         0.93         0.77         0.77         0.77           Adj. Flow (vph)         411         0         208         0         <   |
| Flpb, ped/bikes         1.00         1.00         1.00           Frt         1.00         0.85         0.97         0.97           Flt Protected         0.95         1.00         1.00         1.00           Satd. Flow (prot)         1703         1313         4806         4851           Flt Permitted         0.95         1.00         1.00         1.00           Satd. Flow (perm)         1703         1313         4806         4851           Volume (vph)         370         0         187         0         0         0         879         243         0         1105         221           Peak-hour factor, PHF         0.90         0.90         0.92         0.92         0.92         0.93         0.93         0.77         0.77         0.77           Adj. Flow (vph)         411         0         208         0         0         0         0         945         261         0         1435         287           RTOR Reduction (vph)         0         0         8         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0   |
| Frt         1.00         0.85         0.97         0.97           Flt Protected         0.95         1.00         1.00         1.00           Satd. Flow (prot)         1703         1313         4806         4851           Flt Permitted         0.95         1.00         1.00         1.00           Satd. Flow (perm)         1703         1313         4806         4851           Volume (vph)         370         0         187         0         0         0         879         243         0         1105         221           Peak-hour factor, PHF         0.90         0.90         0.92         0.92         0.92         0.93         0.93         0.77         0.77         0.77           Adj. Flow (vph)         411         0         208         0         0         0         945         261         0         1435         287           RTOR Reduction (vph)         0         0         8         0         0         0         0         0         0         0         0         0         45         0   |
| Fit Protected         0.95         1.00         1.00         1.00           Satd. Flow (prot)         1703         1313         4806         4851           Flt Permitted         0.95         1.00         1.00         1.00           Satd. Flow (perm)         1703         1313         4806         4851           Volume (vph)         370         0         187         0         0         0         879         243         0         1105         221           Peak-hour factor, PHF         0.90         0.90         0.92         0.92         0.92         0.93         0.93         0.77         0.77         0.77           Adj. Flow (vph)         411         0         208         0         0         0         945         261         0         1435         287           RTOR Reduction (vph)         0         0         8         0         0         0         0         0         0         0         45         0   |
| Satd. Flow (prot)       1703       1313       4806       4851         Flt Permitted       0.95       1.00       1.00       1.00       1.00         Satd. Flow (perm)       1703       1313       4806       4851         Volume (vph)       370       0       187       0       0       0       879       243       0       1105       221         Peak-hour factor, PHF       0.90       0.90       0.92       0.92       0.92       0.93       0.93       0.93       0.77       0.77       0.77         Adj. Flow (vph)       411       0       208       0       0       0       945       261       0       1435       287         RTOR Reduction (vph)       0       0       8       0       0       0       0       0       0       0       0       45       0   |
| Fit Permitted         0.95 Satd. Flow (perm)         1.00 1313         1.00 4806         4851           Volume (vph)         370 0 187 0 0 0 0 0 879 243         0 1105 221           Peak-hour factor, PHF 0.90 0.90 0.90 0.92 0.92 0.92 0.92 0.93 0.93 0.93 0.77 0.77         0.77 0.77 0.77           Adj. Flow (vph)         411 0 208 0 0 0 0 0 945 261 0 1435 287           RTOR Reduction (vph)         0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   |
| Satd. Flow (perm)         1703         1313         4806         4851           Volume (vph)         370         0         187         0         0         0         879         243         0         1105         221           Peak-hour factor, PHF         0.90         0.90         0.92         0.92         0.92         0.93         0.93         0.93         0.77         0.77           Adj. Flow (vph)         411         0         208         0         0         0         945         261         0         1435         287           RTOR Reduction (vph)         0         0         8         0         0         0         0         0         0         0         45         0   |
| Volume (vph)         370         0         187         0         0         0         0         879         243         0         1105         221           Peak-hour factor, PHF         0.90         0.90         0.92         0.92         0.92         0.93         0.93         0.93         0.77         0.77           Adj. Flow (vph)         411         0         208         0         0         0         945         261         0         1435         287           RTOR Reduction (vph)         0         0         8         0         0         0         0         0         0         0         45         0   |
| Peak-hour factor, PHF         0.90         0.90         0.90         0.92         0.92         0.92         0.93         0.93         0.93         0.77         0.77         0.77           Adj. Flow (vph)         411         0         208         0         0         0         0         945         261         0         1435         287           RTOR Reduction (vph)         0         0         8         0         0         0         0         0         0         0         45         0   |
| Adj. Flow (vph) 411 0 208 0 0 0 0 945 261 0 1435 287 RTOR Reduction (vph) 0 0 8 0 0 0 0 0 0 0 45 0   |
| RTOR Reduction (vph) 0 0 8 0 0 0 0 0 0 45 0  |
|  |
| Lane Group Flow (vph) 411 0 200 0 0 0 1206 0 0 1677 0  |
|  |
| Confl. Peds. (#/hr)  |
| Heavy Vehicles (%) 6% 2% 23% 2% 2% 2% 2% 4% 6% 2% 4% 3%  |
| Turn Type Prot custom  |
| Protected Phases 4 2 6   |
| Permitted Phases 4   |
| Actuated Green, G (s) 16.7 16.7 24.0 24.0  |
| Effective Green, g (s) 16.9 16.9 24.9 24.9   |
| Actuated g/C Ratio 0.34 0.34 0.50 0.50   |
| Clearance Time (s) 4.2 4.2 4.9 4.9   |
| Vehicle Extension (s) 3.0 3.0 4.0  |
| Lane Grp Cap (vph) 578 446 2403 2426   |
| v/s Ratio Prot c0.24 0.25 c0.35  |
| v/s Ratio Perm 0.15  |
| v/c Ratio 0.71 0.45 0.50 0.69  |
| Uniform Delay, d1 14.3 12.8 8.3 9.5  |
| Progression Factor 1.00 1.00 1.00  |
| Incremental Delay, d2 4.1 0.7 0.2 0.9  |
| Delay (s) 18.4 13.5 8.5 10.4   |
| Level of Service B B A B   |
| Approach Delay (s) 16.8 0.0 8.5 10.4   |
| Approach LOS B A A B   |
| Intersection Summary   |
| HCM Average Control Delay 10.9 HCM Level of Service B  |
| HCM Volume to Capacity ratio 0.70  |
| Actuated Cycle Length (s) 49.8 Sum of lost time (s) 8.0  |
| Intersection Capacity Utilization 53.5% ICU Level of Service A   |
| Analysis Period (min) 15   |
| c Critical Lane Group  |

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Movement	EBL		EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	. SBT	SBR
Lane Configurations	4.14			14.14	ተተሱ		ሻሻ	ተተተ	7	44		
Ideal Flow (vphpl)	1900		1900	1900	1900	1900	1900	1900	1900	1900		1900
Total Lost time (s)	4.0			4.0	4.0		4.0	4.0	4.0	4.0		
Lane Util. Factor	0.97			0.97	0.91		0.97	0.91	1.00	0.97		
Frpb, ped/bikes	1.00			1.00	1.00		1.00	1.00	0.99	1.00		
Flpb, ped/bikes	1.00			1.00	1.00		1.00	1.00	1.00	1.00		
Frt	1.00			1.00	0.99		1.00	1.00	0.85	1.00		
FIt Protected	0.95			0.95	1.00		0.95	1.00	1.00	0.95		
Satd. Flow (prot)	3433	4960		3433	5003		3433	5085	1560	3433		
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95		
Satd. Flow (perm)	3433	4960		3433	5003		3433	5085	1560	3433		
Volume (vph)	332	1331	235	206	1444	158	374	630	116	250		498
Peak-hour factor, PHF	0.86	0.86	0.86	0.96	0.96	0.96	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	386	1548	273	215	1504	165	420	708	130	266	1057	530
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	26	0	0	0
Lane Group Flow (vph)	386	1821	0	215	1669	. 0	420	708	104	266	1587	0
Confl. Peds. (#/hr)			2	<del></del> .	17.7	2	,_0	,,,,	2	200	1307	2
Turn Type	Prot			Prot			Prot	:	Perm	Prot		
Protected Phases	5	2		1	6		3	8	3 7 7 7 7 7	7	4	
Permitted Phases								-	8	•		
Actuated Green, G (s)	9.7	34.1		9.3	33.7		13.0	19.2	19.2	26.8	33.0	
Effective Green, g (s)	9.7	35.4		9.3	35.0		13.0	20.5	20.5	26.8	34.3	
Actuated g/C Ratio	0.09	0.33		0.09	0.32		0.12	0.19	0.19	0.25	0.32	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Vehicle Extension (s)	0.5	2.0		0.5	2.0		0.5	2.0	2.0	0.5	2.0	
Lane Grp Cap (vph)	308	1626	. :	296	1621		413	965	296	852	1527	-
v/s Ratio Prot	0.11	c0.37		0.06	c0.33	5 × 1	c0.12	0.14	200	0.08	c0.33	
v/s Ratio Perm							00.12	0.17	0.07	0.00	CU.33	
v/c Ratio	1.25	1.12		0.73	1.03		1.02	0.73	0.35	0.21	1.07dr	
Uniform Delay, d1	49.1	36.3		48.1	36.5		47.5	41.2	38.0	33.1	36.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		
Incremental Delay, d2	137.9	62.8		7,3	30.3		48.6	2.5	0.3	0.1	1.00	
Delay (s)	187.0	99.1		55.4	66.8		96.1	43.7	38.2		33.9	
Level of Service	F	F		E	60.6 E		50.1 F	43.7 D		33.2	70.8	
Approach Delay (s)	.•	114.5		<del></del>	65.5		F	60.6	D	С	E	
Approach LOS		F			65.5 E			60.6 E			65.4	
		•		The Columbia and Columbia	_				<u> </u>		E E	1.
Intersection Summary												
HCM Average Control D			79.6	Н	CM Leve	el of Se	rvice		E			
HCM Volume to Capacit	•		1.08	_		4						
Actuated Cycle Length (			108.0		um of lo				16.0			
ntersection Capacity Uti	iization	9	5.3%	IC	U Level	of Serv	vice .		F			
Analysis Period (min)			15			5 300	100	* 14 14 14 14 14 14 14 14 14 14 14 14 14				
dr Defacto Right Lane.	Hecod	e with 1	though	lane as	a right l	lane.						
Critical Lane Group	Line of				e di Este e e e					42.4		

62: Ming Avenue & Real Road

	•	۶		*	F	•	4	4	4	†	<i>/</i> *	<b>/</b>
Movement	EBU	EBL	EBT	EBA	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		Ä	ተተ <sub>ጉ</sub>			ā	<b>^^</b>		*	4	7	ሻ
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	0.91			1.00	*0.80	\$ 1, 22 h	0.95	0.95	1.00	0.95
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00
Frt		1.00	0.99			1.00	0.99		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)		1770	5011			1770	4439		1681	1770	1583	1681
FIt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		1770	5011			1770	4439		1681	1770	1583	1681
Volume (vph)	16	142	1455	111	20	151	1792	66	90	122	107	191
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	18	158	1617	123	22	170	2013	74	101	137	120	215
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	24	. 0
Lane Group Flow (vph)	0	176	1740	0	0	192	2087	. 0	101	137	96	195
Confl. Peds. (#/hr)				13				8	19			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%
Turn Type	Prot	Prot			Prot	Prot			Split		Perm	Split
Protected Phases	5	5	2		1	1	6		8	8		7
Permitted Phases											8	
Actuated Green, G (s)		15.7	50.3			12.1	46.7		14.4	14.4	14.4	12.1
Effective Green, g (s)		15.7	51.6			12.1	48.0		15.3	15.3	15.3	13.0
Actuated g/C Ratio		0.15	0.48			0.11	0.44		0.14	0.14	0.14	0.12
Clearance Time (s)		4.0	5.3			4.0	5.3		4.9	4.9	4.9	4.9
Vehicle Extension (s)		1.0	2.0	<u> </u>	which is	1.0	2.0	<u> </u>	2.0	2.0	2.0	1.0
Lane Grp Cap (vph)		257	2394			198	1973		238	251	224	202
v/s Ratio Prot	1000	0.10	c0.35			0.11	c0.47		0.06	c0.08		0.12
v/s Ratio Perm											0.06	
v/c Ratio		0.68	0.73			0.97	1.06		0.42	0.55	0.43	0.97
Uniform Delay, d1		43.8	22.6			47.8	30.0		42.3	43.1	42.4	47.3
Progression Factor		1.00	1.00			1.10	1.23		1.00	1.00	1.00	1.00
Incremental Delay, d2		5.9	2.0			47.1	35.5		0.4	1.3	0.5	52.6
Delay (s)		49.7	24.5			99.7	72.4		42.8	44.4	42.8	99.9
Level of Service		D	C			. +	E		D	D	D	, F
Approach Delay (s)			26.8				74.7		· · · · · · · · · · · · ·	43.4	tra e e e e e e e e e e e e e e e e e e e	
Approach LOS			С				E			D		
Intersection Summary												
HCM Average Control De			60.8	H	ICM Le	vel of S	ervice		, Е			
HCM Volume to Capacity			0.91									
Actuated Cycle Length (s)			108.0			ost time			12.0			
Intersection Capacity Utili	zation		80.5%	ŀ	CU Lev	el of Se	rvice		D			
Analysis Period (min)			15									
c Critical Lane Group												

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Movement	SBT	SBR	
Lane Configurations	4	7	
Ideal Flow (vphpl)	1900	900	
Total Lost time (s)	4.0	4.0	
Lane Util. Factor	0.95	1.00	
Frpb, ped/bikes	1.00	0.94	
Flpb, ped/bikes	1.00	1.00	
Frt	1.00	0.85	
Flt Protected	1.00	1.00	
Satd. Flow (prot)	1761	491	
Fit Permitted	1.00	1.00	(1) (B. 1865) (1) (B. 1865) (B. 1865) (B. 1865) (B. 1865) (B. 1865) (B. 1865) (B. 1865) (B. 1865) (B. 1865) (B.
Satd. Flow (perm)	1761	491	
Volume (vph)	165	226	
Peak-hour factor, PHF	0.89	0.89	
Adj. Flow (vph)	185	254	
RTOR Reduction (vph)	0	51	
Lane Group Flow (vph)	205	203	
Confl. Peds. (#/hr)	004	19	
Heavy Vehicles (%)	2%	2%	
Turn Type		erm	
Protected Phases	7		
Permitted Phases	10.1	7	
Actuated Green, G (s)	12.1	2.1	
Effective Green, g (s)	13.0 0.12	3.0 .12	
Actuated g/C Ratio Clearance Time (s)	4.9	4.9	
Vehicle Extension (s)	1.0	4.9 1.0	
Lane Grp Cap (vph)	212	1.0	
	0.12	179	
v/s Ratio Perm	0.12	на в в 10 г. п. — У Мунемида, 10 г. п. — Д 14 г. п. — . <b>14</b>	the switch of second the second of the
	0.97	. 14 . <b>13</b>	
	47.3	7.5	
• .	1.00	.00	
the state of the s	51.6	7.9	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de
	98.9	5.4	
Level of Service	F	<b>**-</b> *:	e Maria de Santa de La Maria de La Regiona de Carlos de
	21.1		
Approach LOS	F		
Intersection Summary	-		
			Section 200 for the first contract and the contract and t

·	۶	<b>→</b>	*	<b>*</b>	-	4	4	<b>†</b>	1	1	Ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ተተሱ		Ä	ተተተ				7			7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1000	1000	1000	1000	1000	1000
Total Lost time (s)		4.0		4.0	4.0				4.0			4.0
Lane Util. Factor		0.91		1.00	0.91			+ 1,	1.00			1.00
Frpb, ped/bikes		1.00		1.00	1.00				0.99		State to a	1.00
Flpb, ped/bikes		1.00		1.00	1.00				1.00			1.00
Frt		0.98		1.00	1.00				0.86			0.86
Flt Protected		1.00		0.95	1.00				1.00			1.00
Satd. Flow (prot)		4964		1770	5085				837			848
Flt Permitted	yr s	1.00		0.95	1.00				1.00			1.00
Satd. Flow (perm)		4964		1770	5085				837		. 245	848
Volume (vph)	0	1582	247	211	1312	0	0	0	682	0	0	875
Peak-hour factor, PHF	0.93	0.93	0.93	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1701	266	248	1544	0	0	0	758	0	0	972
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1954	0	248	1544	. 0	0	0	758	0	0	972
Confl. Peds. (#/hr)			2						2			
Turn Type		_		Prot					Free			Free
Protected Phases		2		1	6				- <del></del> 32 2			<del></del>
Permitted Phases				466	400.0				Free			Free
Actuated Green, G (s)		80.7		18.0	108.0				108.0			108.0
Effective Green, g (s)		82.0		18.0	108.0				108.0			108.0
Actuated g/C Ratio		0.76		0.17	1.00				1.00			1.00
Clearance Time (s)		5.3		4.0	2.0	1. 1.						
Vehicle Extension (s)		2.0		1.0	4.0							
Lane Grp Cap (vph)	til som som	3769		295	5085	Arriver of			837			848
v/s Ratio Prot		0.39		0.14	0.30							
v/s Ratio Perm		0.50	,	0.04	0.00		S 15.		0.91			c1.15
v/c Ratio		0.52		0.84	0.30	4 4 4 5			0.91		4.	1.15
Uniform Delay, d1		5.2		43.6	0.0				0.0			54.0
Progression Factor		0.55		0.99	1.00				1.00			1.00
Incremental Delay, d2		0.3		9.2	0.1				15.2			79.6 133.6
Delay (s)		3.2		52.5 D	0.1				15.2 B			133.0 F
Level of Service		A 3.2		ע	7.3			15.2	Ь		133.6	Г
Approach Delay (s)								15.2 B			133.6 F	
Approach LOS		Α			Α			D	***		Г	4 - 4 - 4 - 4
Intersection Summary												
HCM Average Control De	elay		29.3	⊢	ICM Le	vel of Se	ervice		С			
<b>HCM</b> Volume to Capacity	ratio		1.15									
Actuated Cycle Length (s	)		108.0	S	um of I	ost time	(s)		0.0			
Intersection Capacity Utili			54.5%	10	CU Leve	el of Ser	vice		Α			
Analysis Period (min)			15									
c Critical Lane Group												

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Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations		Ä	4111			Ä	<b>↑</b> ↑↑		14.54	什	7	
Ideal Flow (vphpl)	1900		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor		1.00	*0.65			1.00	*0.85		*0.85	0.95	1.00	
Frpb, ped/bikes		1.00	1.00			1.00	0.99		1.00	1.00	0.98	
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00	1.00	
Frt		1.00	0.97			1.00	0.98		1.00	1.00	0.85	
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)		1770	4686			1741	4644		3008	3539	1423	
Flt Permitted		0.95	1.00			0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)		1770	4686			1741	4644		3008	3539	1423	
Volume (vph)	7	189	1685	383	22	109	1159	139	158	315	218	19
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.86	0.86	0.86	0.86	0.90	0.90	0.90	0.86
Adj. Flow (vph)	8	215	1915	435	26	127	1348	162	176	350	242	22
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	48	0
Lane Group Flow (vph)	0	223	2350	0	0	153	1510	0	176	350	194	0
Confl. Peds. (#/hr)				3				3			8	ŭ
Heavy Vehicles (%)	2%	2%	2%	3%	2%	4%	2%	2%	2%	2%	11%	2%
Turn Type	Prot	Prot			Prot	Prot			Prot		Perm	Prot
Protected Phases	5	5	2		1	1	6		3	8	- 01111	7
Permitted Phases									, ,	,	8	•
Actuated Green, G (s)		17.5	44.2			10.5	37.2		8.3	18.4	18.4	
Effective Green, g (s)		17.5	45.5			10.5	38.5		8.3	19.7	19.7	
Actuated g/C Ratio		0.16	0.42			0.10	0.36		0.08	0.18	0.18	
Clearance Time (s)		4.0	5.3			4.0	5.3		4.0	5.3	5.3	
Vehicle Extension (s)		1.5	2.0			1.0	2.0		1.0	2.0	2.0	
Lane Grp Cap (vph)		287	1974		<del></del>	169	1656		231	646	260	
v/s Ratio Prot		c0.13	c0.50			0.09	0.33		c0.06	0.10	200	
v/s Ratio Perm						, 'F NT T			.00,00	0.10	0.14	
v/c Ratio		0.78	1.19			0.91	0.91		0.76	0.54	0.75	
Uniform Delay, d1		43.4	31.2			48.3	33.1		48.9	40.1	41.8	
Progression Factor		0.74	0.76			1.06	0.54		1.00	1.00	1.00	
Incremental Delay, d2		9.2	90.0			27.9	5.5		12.5	0.5	9.7	
Delay (s)		41.2	113.8			79.0	23.3		61.4	40.6	51.5	
Level of Service		D	F			Е	C		F	D.0	D1.0	
Approach Delay (s)			107.5	100			28.5			48.8		
Approach LOS		* * ** ***	F				C		11.0	70.0 D	- N	
Intersection Summary										_		
HCM Average Control Dela	ay		68.1	НС	M Leve	el of Se	rvice		E			
HCM Volume to Capacity r			0.99		0*(		1100		-			
Actuated Cycle Length (s)	<del>-</del> .		108.0	Su	m of lo	st time (	's)		12.0			
Intersection Capacity Utiliz	ation		75.1%			of Serv			12.0 D			
Analysis Period (min)			15			OI OCIV			D			
c Critical Lane Group												
्र वर्षात्रम् <del>चित्राच्या वर्ष</del>												

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Movement	SBL	SBT	SBR	
Lane Configurations	<u>ሕ</u> ኘ	<b>ተ</b> ኈ		
Ideal Flow (vphpl)	1900	1900	1900	
Total Lost time (s)	4.0	4.0		
Lane Util. Factor	0.97	0.95		李峰 ""你说话,""你是就好的话。" (1945年) "我们的
Frpb, ped/bikes	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		
Frt	1.00	0.95		
Flt Protected	0.95	1.00		
Satd. Flow (prot)	3403	3380		
Flt Permitted	0.95	1.00		그렇게 하는 이 그렇게 하셨다면 보고 있다는 그렇게 하는 말이 되었다.
Satd. Flow (perm)	3403	3380		
Volume (vph)	171	463	199	스트를 하는 이름을 다른 것으로 하는 것이다. 그는 가는 것으로 보는 것으로 보다 되었다. 그는 것으로 보는 것으로 보다 되었다. 그는 것으로 보는 것으로 보는 것으로 보다 되었다. 그는 것으로 보다 보다 보다 되었다. 그는 것으로 보다 되었다. 그는
Peak-hour factor, PHF	0.86	0.86	0.86	
Adj. Flow (vph)	199	538	231	
RTOR Reduction (vph)	0	0	0	
Lane Group Flow (vph)	221	769	0	
Confl. Peds. (#/hr)				
Heavy Vehicles (%)	3%	2%	2%	<u>and and a second of the Market and a second of the second</u>
Turn Type	Prot			
Protected Phases	7	4		
Permitted Phases	11.4	12.25		en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co
Actuated Green, G (s)	16.3	26.4		
Effective Green, g (s)	16.3	27.7		
Actuated g/C Ratio	0.15	0.26		
Clearance Time (s)	4.0	5.3		
Vehicle Extension (s)	1.5	2.0		
Lane Grp Cap (vph)	514	867		ing the service of th
v/s Ratio Prot	0.06	c0.23		
v/s Ratio Perm				en de la composition de la composition de la composition de la composition de la composition de la composition La composition de la
v/c Ratio	0.43	0.89		
Uniform Delay, d1	41.6	38.6		en grande de la companya de la companya de la companya de la companya de la companya de la companya de la comp La companya de la co

Intersection Summary

Progression Factor Incremental Delay, d2

Approach Delay (s)

Level of Service

Approach LOS

Delay (s)

	<b>5</b>	٦		•	F	•	4	•	4	†	~	L
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations		<b>አ</b> ፕ	ተተተ	ŕ		ሽኘ	<b>*</b>	الم	ሻ	414	7	
Ideal Flow (vphpl)	1900		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		*0.80	*0.85	1.00		*0.80	*0.85	1.00	0.91	*0.80	1.00	
Frpb, ped/bikes		1.00	1.00	0.98		1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	
Fit Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		2831	4704	1557		2831	4750	1532	1610	2975	1557	
Fit Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	- 64	2831	4704	1557		2831	4750	1532	1610	2975	1557	
Volume (vph)	34	766	1016	280	30	46	1052	298	89	150	46	1
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.86	0.86	0.86	0.86	0.87	0.87	0.87	0.90
Adj. Flow (vph)	37	824	1092	301	35	53	1223	347	102	172	53	1
RTOR Reduction (vph)	0	0	0	61	0	0	0	70	0	0	47	0
Lane Group Flow (vph) Confl. Peds. (#/hr)	0	861	1092	240	0	88	1223	277	96	178	6	0
Heavy Vehicles (%)	20/	00/	. 00/	3	00/	001		14			. 4	
	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	_	Perm	Prot	Prot		Perm	Split		Perm	Split
Protected Phases Permitted Phases	5	5	2	_	1	1	6		3	3		4
Actuated Green, G (s)		20.0	E0.7	2			04.0	6			3	
Effective Green, g (s)		30.8 30.8	59.7 61.0	59.7		6.0	34.9	34.9	13.0	13.0	13.0	
Actuated g/C Ratio		0.29		61.0		6.0	36.2	36.2	13.0	13.0	13.0	
Clearance Time (s)		4.0	0.56 5.3	0.56 5.3		0.06	0.34	0.34	0.12	0.12	0.12	
Vehicle Extension (s)		2.0	2.0	2.0		4.0	5.3	5.3	4.0	4.0	4.0	
Lane Grp Cap (vph)		807			<del>-                                    </del>	1.0	2.0	2.0	1.5	1.5	1.5	·
v/s Ratio Prot		c0.30	2657 0.23	879		157	1592	514	194	358	187	
v/s Ratio Perm		CU.SU	0.23	0.15		0.03	c0.26	0.40	0.06	c0.06		
v/c Ratio		1.07	0.41	0.13		0 EC	0.77	0.18	0.40		0.00	
Uniform Delay, d1		38.6	13.3	12.1		0.56 49.7	0.77	0.54	0.49	0.50	0.03	
Progression Factor		0.48	0.24	0.06		0.93	32.1	29.1	44.4	44.4	42.0	
Incremental Delay, d2		33.0	0.0	0.00		2.5	1.01 3.3	1.01	1.00	1.00	1.00	
Delay (s)		51.7	3.2	0.7		48.8	35.7	3.7 33.0	0.7	0.4	0.0	
Level of Service		D	Α.Δ	Α.		40.0 D	33.7 D	33.0 C	45.2 D	44.8	42.0	
Approach Delay (s)			21.4			D	35.8	· ·	ט .	D	D	
Approach LOS		. ".	C				33.8 D			44.5		
							U		- November - November	D		
Intersection Summary			40.4	11/								
HCM Values to Carpain			40.4	. H(	CM Leve	el of Se	rvice		D			4
HCM Volume to Capacity	allO		0.90	_								
Actuated Cycle Length (s)	otion		108.0		um of lo				16.0			
Intersection Capacity Utiliz	.auom	ď	0.2%	iC	U Level	or Serv	/ice		D			
Analysis Period (min) c Critical Lane Group			15									
c Critical Lane Group					100							



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Movement	SBL	SBT	SBR	
Lane Configurations	Ā	44	7,5	
Ideal Flow (vphpl)	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	0.91	*0.80	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	0.98	1.00	
Satd. Flow (prot)	1610	2914	1583	
Flt Permitted	0.95	0.98	1.00	용탁 그는 이 선택님, 이번 경우는 그리는 그리고 모든 모두에
Satd. Flow (perm)	1610	2914	1583	
Volume (vph)	95	53	254	
Peak-hour factor, PHF	0.90	0.90	0.90	
Adj. Flow (vph)	106	59	282	
RTOR Reduction (vph)	0	0	56	
Lane Group Flow (vph)	58	108	226	
Confl. Peds. (#/hr)	4			
Heavy Vehicles (%)	2%	2%	2%	
Turn Type	Split		Perm	
Protected Phases	4	4		randra de la composição de Miller de Composito de La Composito de Composito de Composito de Composito de Compo La composito de Composito de Composito de Composito de Composito de Composito de Composito de Composito de Com
Permitted Phases			4	
Actuated Green, G (s)	12.0	12.0	12.0	
Effective Green, g (s)	12.0	12.0	12.0	
Actuated g/C Ratio	0.11	0.11	0.11	
Clearance Time (s)	4.0	4.0	4.0	
Vehicle Extension (s)	1.5	1.5	1.5	
Lane Grp Cap (vph)	179	324	176	
v/s Ratio Prot	0.04	0.04		
v/s Ratio Perm			c0.14	
v/c Ratio	0.32	0.33	1.28	
Uniform Delay, d1	44.3	44.3	48.0	
Progression Factor	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.2	163.9	
Delay (s)	44.6	44.5	211.9	
Level of Service	D	D	F	
Approach Delay (s)	\$1. \$1.	149.9		
Approach LOS		F		
Intersection Summary				

	ቌ	<b>*</b>	<b>→</b>	7	F	•	4	4	1	†	<i>/</i> *	<b>\</b>
Movement	EBU		EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		Ä	ተተቡ			Ä	ተተኈ		ነ	₹	7	ሻ
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		1.00		*		1.00	0.91		0.95	0.95	1.00	0.95
Frpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00	0.97	1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00
Frt		1.00	0.98			1.00	0.99		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (prot)		1770	4890			1770	5047		1681	1696	1530	1665
Flt Permitted		0.95	1.00			0.95	1.00		0.95	0.96	1.00	0.95
Satd. Flow (perm)		1770	4890			1770	5047		1681	1696	1530	1665
Volume (vph)	25	66	960	136	35	51	895	40	215	16	45	62
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.73
Adj. Flow (vph)	27	70	1021	145	41	59	1041	47	250	19	52	85
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	Ö	0	46	0
Lane Group Flow (vph)	0	97	1166	0	0	100	1088	0	131	138	6	85
Confl. Peds. (#/hr)				2				2			15	15
Heavy Vehicles (%)	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	Prot	Prot			Prot	Prot			Split		Perm	Split
Protected Phases	5	5	2		1	1	6		4	4		3
Permitted Phases										·	4	. •
Actuated Green, G (s)		7.8	54.1			11.5	57.8		13.1	13.1	13.1	12.0
Effective Green, g (s)		7.8	55.4			11.5	59.1		13.1	13.1	13.1	12.0
Actuated g/C Ratio		0.07	0.51			0.11	0.55		0.12	0.12	0.12	0.11
Clearance Time (s)		4.0	5.3			4.0	5.3		4.0	4.0	4.0	4.0
Vehicle Extension (s)	27.4	1.0	2.0			1.0	2.0		1.5	1.5	1.5	1.0
Lane Grp Cap (vph)		128	2508			188	2762	· · · · · · · · · · · · · · · · · · ·	204	206	186	185
v/s Ratio Prot		c0.05	c0.24			c0.06	0.22		0.08	c0.08	.00	0.05
v/s Ratio Perm						4 4 14					0.00	0.00
v/c Ratio		0.76	0.46			0.53	0.39		0.64	0.67	0.03	0.46
Uniform Delay, d1		49.2	16.8			45.7	14.1		45.2	45.4	41.9	45.0
Progression Factor		1.04	0.36			1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		19.0	0.6		4	1.4	0.4		5.1	6.3	0.0	0.7
Delay (s)		70.2	6.6			47.1	14.5		50.3	51.6	41.9	45.6
Level of Service		Ε	Α			D	В		D	D	D	D.O
Approach Delay (s)			11.5				17.3			49.5		
Approach LOS			В				В	• • • • • • •		D	A. A.	
Intersection Summary												
HCM Average Control De			24.7	Н	CM Lev	el of Se	rvice		С			
<b>HCM Volume to Capacity</b>			0.59		100		319					
Actuated Cycle Length (s)			108.0	Sı	um of lo	st time	(s)		16.0			
Intersection Capacity Utiliz	zation		56.2%			of Serv			В			
Analysis Period (min)			15						_			
c Critical Lane Group												



Movement SBT	SBR
Lane Configurations 4	
Ideal Flow (vphpl) 1900	
Total Lost time (s) 4.0	
Lane Util. Factor 0.95	
Frpb, ped/bikes 1.00	
Flpb, ped/bikes 1.00	
Frt 0.87	
Flt Protected 1.00	
Satd. Flow (prot) 1532	
Flt Permitted 1.00	이 보는 여름도 하다는 모습을 만나면 한 민준이 바다 하는 어린 모양이 그렇게 살았다. 그런 그
Satd. Flow (perm) 1532	
Volume (vph) 19	105
Peak-hour factor, PHF 0.73	0.73
Adj. Flow (vph) 26	
RTOR Reduction (vph) 0	
Lane Group Flow (vph) 170	
Confl. Peds. (#/hr)	المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة ال المراجعة المراجعة ال
Heavy Vehicles (%) 2%	3%
Turn Type	
Protected Phases 3	
Permitted Phases	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la co
Actuated Green, G (s) 12.0	Maraja kantang malawaki mililia kantan 1940 ili milili manaki mali ili m
Effective Green, g (s) 12.0	
Actuated g/C Ratio 0.11	en de la propieta de la companya de la companya de la companya de la companya de la companya de la companya de
Clearance Time (s) 4.0 Vehicle Extension (s) 1.0	
	<u>i alika merupatan dikerakat kilong bermalah bilan kilong dikemili basar merupakan kilongkan bilangan bilangan</u> Bilangan
Lane Grp Cap (vph) 170 v/s Ratio Prot c0.11	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1 48.0	and the first section of the control of the first and the first section of the control of the co
Progression Factor 1.00	医多种性皮肤 医多种性 医多种性 医多种性 医多种性 医多种性 医多种性
Incremental Delay, d2 69.0	
Delay (s) 117.0	
Level of Service F	
Approach Delay (s) 93.2	
Approach LOS F	
Intersection Summary	

:	•	•	<b>→</b>	*	F	•	<b>←</b>	4	<b>₽</b> }.	1	†	_
Movement	BU	EBL	EBT	EBR	WBÜ	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		F.	<b>ተ</b> ጉ			Ä	<b>ተ</b> ጉ			Ä	<b>ት</b> ጉ	
	900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0			4.0	4.0	
Lane Util. Factor		1.00	0.95			1.00	0.95			1.00	0.95	
Frpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.99			1.00	0.98	
Flt Protected		0.95	1.00		100	0.95	1.00	- 4:		0.95	1.00	
Satd. Flow (prot)		1770	3371			1770	3516			1770	3474	
Fit Permitted		0.95	1.00			0.95	1.00			0.95	1.00	
Satd. Flow (perm)		1770	3371			1770	3516			1770	3474	
Volume (vph)	18	101	428	103	3	134	599	25	8	70	443	56
the state of the s	85	0.85	0.85	0.85	0.83	0.83	0.83	0.83	0.89	0.89	0.89	0.89
Adj. Flow (vph)	21	119	504	121	4	161	722	30	9	79	498	63
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	140	625	0	0	165	752	0	0	88	561	0
Confl. Peds. (#/hr)				5				2				2
	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
	rot	Prot			Prot	Prot			Prot	Prot		
Protected Phases	7	7	4		3	3	8		5	5	2	
Permitted Phases												
Actuated Green, G (s)		9.7	17.9			10.4	18.6			6.2	35.3	
Effective Green, g (s)		9.7	19.2			10.4	19.9			6.2	36.6	
Actuated g/C Ratio		0.11	0.22			0.12	0.23			0.07	0.42	
Clearance Time (s)		4.0	5.3			4.0	5.3			4.0	5.3	
Vehicle Extension (s)		1.0	4.0			1.0	4.0			1.0	4.0	
Lane Grp Cap (vph)		195	735			209	795			125	1445	
v/s Ratio Prot		0.08	0.19			c0.09	c0.21			c0.05	0.16	
v/s Ratio Perm											ক্রণকা ৮	
v/c Ratio		0.72	0.85			0.79	0.95	1.		0.70	0.39	
Uniform Delay, d1		37.8	33.0			37.7	33.5			40.0	17.9	
Progression Factor		1.00	1.00			1.00	1.00			1.00	1.00	
Incremental Delay, d2		10.0	9.6			16.5	19.9			13.7	0.8	
Delay (s)		47.8	42.6			54.2	53.5			53.7	18.7	
Level of Service		D	D			D	D			D	В	
Approach Delay (s)			43.6				53.6				23.4	
Approach LOS			D				D				C	
Intersection Summary												
HCM Average Control Delay			35.5	Н	CM Lev	el of Se	rvice		D			
HCM Volume to Capacity rat	io		0.73				<del>-</del> .		_			
Actuated Cycle Length (s)			88.0	Su	um of lo	st time	(s)	* .	12.0			
Intersection Capacity Utilizat	ion	$\epsilon$	64.5%		U Leve				C			
Analysis Period (min)			15		7		,					
c Critical Lane Group												

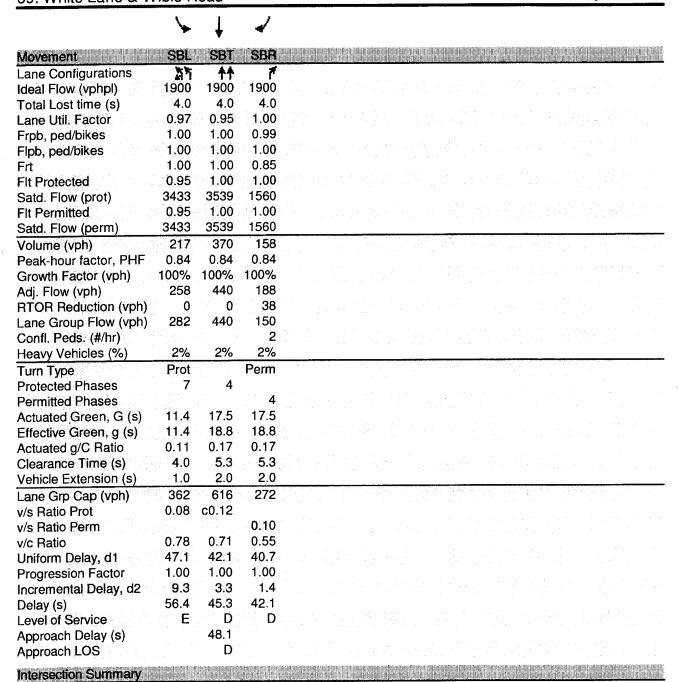
Movement         SBU         SBL         SBT         SBR           Lane Configurations         A
Ideal Flow (vphpl)       1900       1900       1900         Total Lost time (s)       4.0       4.0         Lane Util. Factor       1.00       0.95       1.00         Frpb, ped/bikes       1.00       1.00       0.98         Flpb, ped/bikes       1.00       1.00       1.00         Frt       1.00       1.00       0.85         Flt Protected       0.95       1.00       1.00
Total Lost time (s) 4.0 4.0 4.0 Lane Util. Factor 1.00 0.95 1.00 Frpb, ped/bikes 1.00 1.00 0.98 Flpb, ped/bikes 1.00 1.00 1.00 Frt 1.00 1.00 0.85 Flt Protected 0.95 1.00 1.00
Lane Util. Factor       1.00       0.95       1.00         Frpb, ped/bikes       1.00       1.00       0.98         Flpb, ped/bikes       1.00       1.00       1.00         Frt       1.00       1.00       0.85         Flt Protected       0.95       1.00       1.00
Frpb, ped/bikes       1.00       1.00       0.98         Flpb, ped/bikes       1.00       1.00       1.00         Frt       1.00       1.00       0.85         Flt Protected       0.95       1.00       1.00
Flpb, ped/bikes 1.00 1.00 1.00 Frt 1.00 1.00 0.85 Flt Protected 0.95 1.00 1.00
Frt 1.00 1.00 0.85 Flt Protected 0.95 1.00 1.00
Flt Protected 0.95 1.00 1.00
Satd Flow (prot) 1770 3539 1554
outer, ion (p. o.)
Flt Permitted 0.95 1.00 1.00
Satd. Flow (perm) 1770 3539 1554
Volume (vph) 2 50 805 181
Peak-hour factor, PHF 0.84 0.84 0.84 0.84
Adj. Flow (vph) 2 60 958 215
RTOR Reduction (vph) 0 0 0 42
Lane Group Flow (vph) 0 62 958 173
Confl. Peds. (#/hr) 5
Heavy Vehicles (%) 2% 2% 2%
Turn Type Prot Prot Perm
Protected Phases 1 1 6
Permitted Phases 6
Actuated Green, G (s) 5.8 34.9 34.9
Effective Green, g (s) 5.8 36.2 36.2
Actuated g/C Ratio 0.07 0.41 0.41
Clearance Time (s) 4.0 5.3 5.3
Vehicle Extension (s) 1.0 4.0 4.0
Lane Grp Cap (vph) 117 1456 639
v/s Ratio Prot 0.04 c0.27
v/s Ratio Perm 0.11
v/c Ratio 0.53 0.66 0.27
Uniform Delay, d1 39.8 20.9 17.2
Progression Factor 1.00 1.00 1.00
Incremental Delay, d2 2.0 2.3 1.0
Delay (s) 41.8 23.2 18.2
Level of Service D C B
Approach Delay (s) 23.3
Approach LOS C
Intersection Summary

	<b>5</b>	۶	<b>→</b>	*	•	+	1	₽î	1	†	*	L
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations		ă	<b>†</b> }		ል	<b>†</b> p			ž.			
Ideal Flow (vphpi)	1900		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0	4.0		
Lane Util. Factor		1.00	0.95		1.00	0.95			1.00	0.95	e grade	
Frpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00		
Flpb, ped/bikes Frt		1.00	1.00		1.00	1.00			1.00	1.00		
Fit Protected		1.00 0.95	0.97		1.00	0.99			1.00	0.98		
Satd. Flow (prot)		1754	1.00 3374		0.95	1.00			0.95	1.00		
Flt Permitted		0.95	1.00		1752	3482			1724	3429		
Satd. Flow (perm)		1754	3374		0.95 1752	1.00 3482			0.95	1.00		
Volume (vph)	10	140	324	77	115		- 20	- 40	1724	3429		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.93	436 0.93	39	10	92	330	53	6
Adj. Flow (vph)	11	152	352	84	124	469	0.93	0.86	0.86	0.86	0.86	0.84
RTOR Reduction (vph)	0	0	0	. 04	. 124	409	42	12	107	384	62	7
Lane Group Flow (vph)	ő	163	436	. 0	124	511	0	0	0	0	0	0
Confl. Peds. (#/hr)	•	100	100	5	127	311	11	. 0	119	446	0	0
Heavy Vehicles (%)	2%	3%	3%	6%	3%	2%	5%	2%	5%	2%	7	00/
Turn Type	Prot	Prot			Prot	2_/0	370	Prot	Prot	270	8%	2%
Protected Phases	5	5	2		1	6		3	3	8		Prot
Permitted Phases			–							O		. 7
Actuated Green, G (s)		8.2	18.2		6.9	16.9			6.8	21.0		
Effective Green, g (s)		8.2	19.1		6.9	17.8			6.8	22.3		
Actuated g/C Ratio		0.12	0.28		0.10	0.26			0.10	0.33		
Clearance Time (s)		4.0	4.9		4.0	4.9			4.0	5.3		
Vehicle Extension (s)		1.0	2.0		1.0	2.0			1.0	2.0		
Lane Grp Cap (vph)		211	946		178	910	<del></del>	<del></del>	172	1123	<u> </u>	
v/s Ratio Prot		c0.09	0.13		0.07	c0.15			c0.07	c0.13		
v/s Ratio Perm									্য কর্মা			
v/c Ratio		0.77	0.46		0.70	0.56			0.69	0.40	1.24	
Uniform Delay, d1		29.0	20.2		29.6	21.8			29.6	17.7		
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00	- :	
Incremental Delay, d2		14.7	0.1		9.2	0.5			9.3	0.1	N 174 V	
Delay (s)		43.7	20.4		38.8	22.2			38.9	17.8		200
Level of Service		D	C		D	C			D	В		
Approach Delay (s)			26.7			25.5				22.2		
Approach LOS			С			С				C		
Intersection Summary												
HCM Average Control Dela			24.0	HO	CM Lev	el of Ser	vice		С			
HCM Volume to Capacity r	ratio		0.65			100						
Actuated Cycle Length (s)			68.1	Su	m of lo	st time (	s)		20.0			
Intersection Capacity Utiliz	ation	6	2.0%			of Servi			В			
Analysis Period (min)			15									
c Critical Lane Group												

Movement   SBL   SBT   SBR		7	I	1	
Lane Configurations   Lideal Flow (vphpl)   1900			*	7	
Ideal Flow (vphpl)					
Total Lost time (s)					
Lane Util. Factor 1.00 0.95 1.00 Frpb, ped/bikes 1.00 1.00 0.98 Flpb, ped/bikes 1.00 1.00 1.00 Frb, ped/bikes 1.00 1.00 1.00 Frt 1.00 1.00 1.00 Satd. Flow (prot) 1770 3539 1554 Flt Permitted 0.95 1.00 1.00 Satd. Flow (perm) 1770 3539 1554 Volume (vph) 44 479 234 Peak-hour factor, PHF 0.84 0.84 0.84 Adj. Flow (vph) 52 570 279 RTOR Reduction (vph) 0 0 57 Lane Group Flow (vph) 59 570 222 Confl. Peds. (#/hr) 9 Heavy Vehicles (%) 2% 2% 2% Turn Type Prot Permitted Phases 4 Actuated Green, G (s) 3.8 18.0 18.0 Effective Green, g (s) 3.8 18.0 18.0 Effective Green, g (s) 3.8 19.3 19.3 Actuated g/C Ratio 0.06 0.28 0.28 Clearance Time (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0 Lane Gro Cap (vph) 99 1003 440 v/s Ratio Perm v/c Ratio Perm V/c Ratio Perm V/c Ratio Permitted Play, d2 Delay (s) 37, 21.3 20.7 Level of Service Day (s) 37, 21.3 20.7 Level of Service Day (s) 22.2		2000			
Frpb, ped/bikes 1.00 1.00 0.98 Flpb, ped/bikes 1.00 1.00 1.00 Flpb, ped/bikes 1.00 1.00 0.85 Flt Protected 0.95 1.00 1.00 Satd. Flow (prort) 1770 3539 1554 Flt Permitted 0.95 1.00 1.00 Satd. Flow (perm) 1770 3539 1554 Volume (vph) 44 479 234 Peak-hour factor, PHF 0.84 0.84 0.84 0.84 Adj. Flow (vph) 52 570 279 RTOR Reduction (vph) 0 0 57 Lane Group Flow (vph) 59 570 222 Corfl. Peds. (#/hr) Heavy Vehicles (%) 2% 2% 2% Turn Type Prot Protected Phases Permitted Phases Actuated Green, G (s) 3.8 18.0 18.0 Effective Green, g (s) 3.8 18.0 18.0 Effective Green, g (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0 Lane Grp Cap (vph) v/s Ratio Perm v/c Ra					en en en en en en en en en en en en en e
Fipb, ped/bikes 1.00 1.00 1.00 Fri 1.00 1.00 0.85 Fit Protected 0.95 1.00 1.00 Satd. Flow (prot) 1770 3539 1554 Fit Permitted 0.95 1.00 1.00 Satd. Flow (perm) 1770 3539 1554 Fit Permitted 0.95 1.00 1.00 Satd. Flow (perm) 1770 3539 1554 Volume (vph) 44 479 234 Peak-hour factor, PHF 0.84 0.84 0.84 Adj. Flow (vph) 52 570 279 RTOR Reduction (vph) 0 0 57 RTOR Reduction (vph) 59 570 222 Confl. Peds. (#/hr) 9 Heavy Vehicles (%) 2% 2% 2% Turn Type Prot Perm Protected Phases 7 4 Permitted Phases 4 Actuated Green, G (s) 3.8 18.0 18.0 Effective Green, g (s) 3.8 19.3 19.3 Actuated Green, G (s) 3.8 19.3 19.3 Actuated Groen (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0 Lane Grp Cap (vph) 99 1003 440 V/s Ratio Prot 0.03 c0.16 V/s Ratio Prot 0.03 c0.16 V/s Ratio Perm V/c Ratio 0.60 0.57 0.51 Uniform Delay, d1 31.4 20.8 20.4 Progression Factor 1.00 1.00 1.00 Incremental Delay, d2 6.3 0.4 0.3 Delay (s) 37.7 21.3 20.7 Level of Service D C C Approach Delay (s) 22.2		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Frit Protected 0.95 1.00 1.00 0.85 Fit Protected 0.95 1.00 1.00 Satd. Flow (prot) 1770 3539 1554 Fit Permitted 0.95 1.00 1.00 Satd. Flow (perm) 1770 3539 1554 Volume (vph) 44 479 234 Peak-hour factor, PHF 0.84 0.84 0.84 0.84 Adj. Flow (vph) 52 570 279 RTOR Reduction (vph) 59 570 222 Contl. Peds. (#/hr) 9 Fort Protected Phases 7 4 Permitted Phases Actuated Green, G (s) 3.8 18.0 18.0 Effective Green, g (s) 3.8 19.3 19.3 Actuated g/C Ratio Clearance Time (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0 Lane Grp Cap (vph) 99 1003 440 v/s Ratio Perm (v/s R					
Fit Protected 0.95 1.00 1.00 Satd. Flow (prot) 1770 3539 1554 Fit Permitted 0.95 1.00 1.00 Satd. Flow (perm) 1770 3539 1554 Volume (vph) 44 479 234 Peak-hour factor, PHF 0.84 0.84 0.84 Adj. Flow (vph) 52 570 279 RTOR Reduction (vph) 0 0 57 Lane Group Flow (vph) 59 570 222 Confl. Peds. (#/hr) 9 Heavy Vehicles (%) 2% 2% 2% 2% Turn Type Prot Protected Phases 7 4 Permitted Phases 4 Actuated Green, G (s) 3.8 18.0 18.0 Effective Green, g (s) 3.8 19.3 19.3 Actuated g/C Ratio 0.06 0.28 0.28 Clearance Time (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0 Lane Grp Cap (vph) 99 1003 440 V/s Ratio Prot 0.03 co.16 V/s Ratio Prot 0.03 co.16 V/s Ratio Perm V/c Ratio Delay (d) 31.4 20.8 20.4 Progression Factor 1.00 1.00 1.00 Incremental Delay, d1 31.4 20.8 20.4 Progression Factor 1.00 1.00 1.00 Incremental Delay (d) 37.7 21.3 20.7 Level of Service Approach Delay (s) 22.2					
Satd. Flow (prot)       1770       3539       1554         Fit Permitted       0.95       1.00       1.00         Satd. Flow (perm)       1770       3539       1554         Volume (vph)       44       479       234         Peak-hour factor, PHF       0.84       0.84       0.84         Adj. Flow (vph)       52       570       279         RTOR Reduction (vph)       59       570       222         Confl. Peds. (#/hr)       9       570       222         Confl. Peds. (#/hr)       9       9       9         Heavy Vehicles (%)       2%       2%       2%         Turn Type       Prot       Perm         Protected Phases       7       4         Permitted Phases       4       4         Actuated Green, G (s)       3.8       18.0       18.0         Effective Green, g (s)       3.8       19.3       19.3         Actuated g/C Ratio       0.06       0.28       0.28         Clearance Time (s)       4.0       5.3       5.3         Vehicle Extension (s)       1.0       2.0       2.0         Lane Grp Cap (vph)       99       10.3       440					en en en en en en en en en en en en en e
Fit Permitted 0.95 1.00 1.00 Satd. Flow (perm) 1770 3539 1554  Volume (vph) 44 479 234  Peak-hour factor, PHF 0.84 0.84 0.84  Adj. Flow (vph) 52 570 279  RTOR Reduction (vph) 0 0 57  Lane Group Flow (vph) 59 570 222  Confl. Peds. (#/hr) 9  Heavy Vehicles (%) 2% 2% 2%  Turn Type Prot Perm  Protected Phases 7 4  Permitted Phases 4  Actuated Green, G (s) 3.8 18.0 18.0  Effective Green, g (s) 3.8 19.3 19.3  Actuated g/C Ratio 0.06 0.28 0.28  Clearance Time (s) 4.0 5.3 5.3  Vehicle Extension (s) 1.0 2.0 2.0  Lane Grp Cap (vph) 99 1003 440  v/s Ratio Perm 0.03 co.16  v/s Ratio Perm 1.00 1.00 1.00  Incremental Delay, d1 31.4 20.8 20.4  Progression Factor 1.00 1.00 1.00  Incremental Delay, d2 6.3 0.4 0.3  Delay (s) 37.7 21.3 20.7  Level of Service D C C  Approach Delay (s) 234	<ul> <li>To the figure of the property of</li></ul>		1.5 %		
Satd. Flow (perm)         1770         3539         1554           Volume (vph)         44         479         234           Peak-hour factor, PHF         0.84         0.84         0.84           Adj. Flow (vph)         52         570         279           RTOR Reduction (vph)         0         0         57           Lane Group Flow (vph)         59         570         222           Confl. Peds. (#/hr)         9         9           Heavy Vehicles (%)         2%         2%           Turn Type         Prot         Perm           Protected Phases         7         4           Actuated Green, G (s)         3.8         18.0         18.0           Effective Green, g (s)         3.8         19.3         19.3           Actuated grC Ratio         0.06         0.28         0.28           Clearance Time (s)         4.0         5.3         5.3           Vehicle Extension (s)         1.0         2.0         2.0           Lane Grp Cap (vph)         99         1003         440           v/s Ratio Prot         0.60         0.57         0.51           Uniform Delay, d1         31.4         20.8         20.4					entre de la companya de la companya de la companya de la companya de la companya de la companya de la companya La companya de la co
Volume (vph)         44         479         234           Peak-hour factor, PHF         0.84         0.84         0.84           Adj. Flow (vph)         52         570         279           RTOR Reduction (vph)         0         0         57           Lane Group Flow (vph)         59         570         222           Confl. Peds. (#/hr)         9         9           Heavy Vehicles (%)         2%         2%         2%           Turn Type         Prot         Perm           Protected Phases         7         4           Actuated Green, G (s)         3.8         18.0         18.0           Effective Green, g (s)         3.8         19.3         19.3           Actuated g/C Ratio         0.06         0.28         0.28           Clearance Time (s)         4.0         5.3         5.3           Vehicle Extension (s)         1.0         2.0         2.0           Lane Grp Cap (vph)         99         1003         440           v/s Ratio Perm         0.14         0.14         0.14           v/c Ratio         0.60         0.57         0.51           Uniform Delay, d1         31.4         20.8         20.4 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
Peak-hour factor, PHF         0.84         0.84         0.84           Adj. Flow (vph)         52         570         279           RTOR Reduction (vph)         0         0         57           Lane Group Flow (vph)         59         570         222           Confl. Peds. (#/hr)         9         9           Heavy Vehicles (%)         2%         2%         2%           Turn Type         Prot         Perm           Protected Phases         7         4           Actuated Green, G (s)         3.8         18.0         18.0           Effective Green, g (s)         3.8         19.3         19.3           Actuated g/C Ratio         0.06         0.28         0.28           Clearance Time (s)         4.0         5.3         5.3           Vehicle Extension (s)         1.0         2.0         2.0           Lane Grp Cap (vph)         99         1003         440           v/s Ratio Perm         0.14         0.03         c0.16           v/s Ratio Perm         0.14         0.0         1.00           V/s Ratio         0.0         0.57         0.51           Uniform Delay, d1         31.4         20.8         20.4					
Adj. Flow (vph)       52       570       279         RTOR Reduction (vph)       0       0       57         Lane Group Flow (vph)       59       570       222         Confl. Peds. (#/hr)       9       9         Heavy Vehicles (%)       2%       2%       2%         Turn Type       Prot       Perm         Protected Phases       4       Permitted Phases         Actuated Green, G (s)       3.8       18.0       18.0         Effective Green, g (s)       3.8       19.3       19.3         Actuated g/C Ratio       0.06       0.28       0.28         Clearance Time (s)       4.0       5.3       5.3         Vehicle Extension (s)       1.0       2.0       2.0         Lane Grp Cap (vph)       99       1003       440         v/s Ratio Prot       0.03       c0.16         v/s Ratio Perm       0.14         v/c Ratio       0.60       0.57       0.51         Uniform Delay, d1       31.4       20.8       20.4         Progression Factor       1.00       1.00       1.00         Incremental Delay, d2       6.3       0.4       0.3         Delay (s)       37.7 <td></td> <td></td> <td></td> <td></td> <td>불통하는 어느님, 나는 아이가 불통하는 얼마는 그는 일을 하는 것</td>					불통하는 어느님, 나는 아이가 불통하는 얼마는 그는 일을 하는 것
RTOR Reduction (vph)					
Lane Group Flow (vph) 59 570 222 Confil. Peds. (#/hr) Heavy Vehicles (%) 2% 2% 2%  Turn Type Prot Perm Protected Phases 7 4 Permitted Phases 4 Actuated Green, G (s) 3.8 18.0 18.0 Effective Green, g (s) 3.8 19.3 19.3 Actuated g/C Ratio 0.06 0.28 0.28 Clearance Time (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0 Lane Grp Cap (vph) 99 1003 440 v/s Ratio Perm 0.14 v/c Ratio 0.60 0.57 0.51 Uniform Delay, d1 31.4 20.8 20.4 Progression Factor 1.00 1.00 1.00 Incremental Delay, d2 6.3 0.4 0.3 Delay (s) 37.7 21.3 20.7 Level of Service D C C Approach Delay (s) 2%  Perm Perm 9 4  4  4  4  4  4  4  4  4  4  4  4  4					
Confl. Peds. (#/hr)  Heavy Vehicles (%)  Turn Type  Prot  Prot Perm  Protected Phases  7  4  Permitted Phases  Actuated Green, G (s)  Signature Green, g (s)  Actuated g/C Ratio  Clearance Time (s)  Vehicle Extension (s)  Lane Grp Cap (vph)  v/s Ratio Prot  v/c Ratio  V/c Ratio  Dinorm Delay, d1  Progression Factor Incremental Delay, d2  Delay (s)  Signature Prot  Actuated g/C Ratio  O.60  O.70					
Heavy Vehicles (%) 2% 2% 2%  Turn Type Prot Perm  Protected Phases 7 4  Permitted Phases 4  Actuated Green, G (s) 3.8 18.0 18.0  Effective Green, g (s) 3.8 19.3 19.3  Actuated g/C Ratio 0.06 0.28 0.28  Clearance Time (s) 4.0 5.3 5.3  Vehicle Extension (s) 1.0 2.0 2.0  Lane Grp Cap (vph) 99 1003 440  v/s Ratio Prot 0.03 c0.16  v/s Ratio Perm  v/c Ratio 0.60 0.57 0.51  Uniform Delay, d1 31.4 20.8 20.4  Progression Factor 1.00 1.00 1.00  Incremental Delay, d2 6.3 0.4 0.3  Delay (s) 37.7 21.3 20.7  Level of Service D C C  Approach Delay (s) 22.2		59	570		
Turn Type					
Protected Phases 7 4 Permitted Phases 4 Actuated Green, G (s) 3.8 18.0 18.0 Effective Green, g (s) 3.8 19.3 19.3 Actuated g/C Ratio 0.06 0.28 0.28 Clearance Time (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0 Lane Grp Cap (vph) 99 1003 440 v/s Ratio Prot 0.03 c0.16 v/s Ratio Perm 0.14 v/c Ratio 0.60 0.57 0.51 Uniform Delay, d1 31.4 20.8 20.4 Progression Factor 1.00 1.00 1.00 Incremental Delay, d2 6.3 0.4 0.3 Delay (s) 37.7 21.3 20.7 Level of Service D C Approach Delay (s) 22.2			2%		
Permitted Phases       4         Actuated Green, G (s)       3.8       18.0       18.0         Effective Green, g (s)       3.8       19.3       19.3         Actuated g/C Ratio       0.06       0.28       0.28         Clearance Time (s)       4.0       5.3       5.3         Vehicle Extension (s)       1.0       2.0       2.0         Lane Grp Cap (vph)       99       1003       440         v/s Ratio Prot       0.03       c0.16         v/s Ratio Perm       0.14         v/c Ratio       0.60       0.57       0.51         Uniform Delay, d1       31.4       20.8       20.4         Progression Factor       1.00       1.00       1.00         Incremental Delay, d2       6.3       0.4       0.3         Delay (s)       37.7       21.3       20.7         Level of Service       D       C       C         Approach Delay (s)       22.2				Perm	
Actuated Green, G (s) 3.8 18.0 18.0  Effective Green, g (s) 3.8 19.3 19.3  Actuated g/C Ratio 0.06 0.28 0.28  Clearance Time (s) 4.0 5.3 5.3  Vehicle Extension (s) 1.0 2.0 2.0  Lane Grp Cap (vph) 99 1003 440  v/s Ratio Prot 0.03 c0.16  v/s Ratio Perm 0.14  v/c Ratio 0.60 0.57 0.51  Uniform Delay, d1 31.4 20.8 20.4  Progression Factor 1.00 1.00 1.00  Incremental Delay, d2 6.3 0.4 0.3  Delay (s) 37.7 21.3 20.7  Level of Service D C  Approach Delay (s) 22.2	Protected Phases	7	4		
Effective Green, g (s) 3.8 19.3 19.3 Actuated g/C Ratio 0.06 0.28 0.28 Clearance Time (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0  Lane Grp Cap (vph) 99 1003 440 v/s Ratio Prot 0.03 c0.16 v/s Ratio Perm 0.14 v/c Ratio 0.60 0.57 0.51 Uniform Delay, d1 31.4 20.8 20.4 Progression Factor 1.00 1.00 1.00 Incremental Delay, d2 6.3 0.4 0.3 Delay (s) 37.7 21.3 20.7 Level of Service D C C Approach Delay (s) 22.2	- <del>-</del>				
Actuated g/C Ratio 0.06 0.28 0.28 Clearance Time (s) 4.0 5.3 5.3 Vehicle Extension (s) 1.0 2.0 2.0  Lane Grp Cap (vph) 99 1003 440 v/s Ratio Prot 0.03 c0.16 v/s Ratio Perm 0.14 v/c Ratio 0.60 0.57 0.51 Uniform Delay, d1 31.4 20.8 20.4 Progression Factor 1.00 1.00 1.00 Incremental Delay, d2 6.3 0.4 0.3 Delay (s) 37.7 21.3 20.7 Level of Service D C Approach Delay (s) 22.2			and the second second		
Clearance Time (s)       4.0       5.3       5.3         Vehicle Extension (s)       1.0       2.0       2.0         Lane Grp Cap (vph)       99       1003       440         v/s Ratio Prot       0.03       c0.16         v/s Ratio Perm       0.14         v/c Ratio       0.60       0.57       0.51         Uniform Delay, d1       31.4       20.8       20.4         Progression Factor       1.00       1.00       1.00         Incremental Delay, d2       6.3       0.4       0.3         Delay (s)       37.7       21.3       20.7         Level of Service       D       C       C         Approach Delay (s)       22.2					
Vehicle Extension (s)         1.0         2.0         2.0           Lane Grp Cap (vph)         99         1003         440           v/s Ratio Prot         0.03         c0.16           v/s Ratio Perm         0.14           v/c Ratio         0.60         0.57         0.51           Uniform Delay, d1         31.4         20.8         20.4           Progression Factor         1.00         1.00         1.00           Incremental Delay, d2         6.3         0.4         0.3           Delay (s)         37.7         21.3         20.7           Level of Service         D         C         C           Approach Delay (s)         22.2         22.2	Actuated g/C Ratio				
Lane Grp Cap (vph) 99 1003 440  v/s Ratio Prot 0.03 c0.16  v/s Ratio Perm 0.14  v/c Ratio 0.60 0.57 0.51  Uniform Delay, d1 31.4 20.8 20.4  Progression Factor 1.00 1.00 1.00  Incremental Delay, d2 6.3 0.4 0.3  Delay (s) 37.7 21.3 20.7  Level of Service D C C  Approach Delay (s) 22.2	Clearance Time (s)				
v/s Ratio Prot       0.03 c0.16         v/s Ratio Perm       0.14         v/c Ratio       0.60 0.57 0.51         Uniform Delay, d1       31.4 20.8 20.4         Progression Factor       1.00 1.00 1.00         Incremental Delay, d2       6.3 0.4 0.3         Delay (s)       37.7 21.3 20.7         Level of Service       D C C         Approach Delay (s)       22.2	Vehicle Extension (s)				
v/s Ratio Perm       0.14         v/c Ratio       0.60       0.57       0.51         Uniform Delay, d1       31.4       20.8       20.4         Progression Factor       1.00       1.00       1.00         Incremental Delay, d2       6.3       0.4       0.3         Delay (s)       37.7       21.3       20.7         Level of Service       D       C       C         Approach Delay (s)       22.2	Lane Grp Cap (vph)			440	
v/c Ratio       0.60       0.57       0.51         Uniform Delay, d1       31.4       20.8       20.4         Progression Factor       1.00       1.00       1.00         Incremental Delay, d2       6.3       0.4       0.3         Delay (s)       37.7       21.3       20.7         Level of Service       D       C       C         Approach Delay (s)       22.2	v/s Ratio Prot	0.03	c0.16		
Uniform Delay, d1 31.4 20.8 20.4 Progression Factor 1.00 1.00 1.00 Incremental Delay, d2 6.3 0.4 0.3 Delay (s) 37.7 21.3 20.7 Level of Service D C C Approach Delay (s) 22.2	v/s Ratio Perm				
Progression Factor       1.00       1.00       1.00         Incremental Delay, d2       6.3       0.4       0.3         Delay (s)       37.7       21.3       20.7         Level of Service       D       C       C         Approach Delay (s)       22.2	v/c Ratio	0.60	0.57	0.51	
Incremental Delay, d2 6.3 0.4 0.3  Delay (s) 37.7 21.3 20.7  Level of Service D C C  Approach Delay (s) 22.2	Uniform Delay, d1				
Delay (s) 37.7 21.3 20.7 Level of Service D C C Approach Delay (s) 22.2	Progression Factor				
Level of Service D C C Approach Delay (s) 22.2	Incremental Delay, d2	6.3			
Approach Delay (s) 22.2	Delay (s)		and the second		
		D	_	С	
Approach LOS C	Approach Delay (s)	n de la companya de la companya de la companya de la companya de la companya de la companya de la companya de Na companya de la companya de la companya de la companya de la companya de la companya de la companya de la co	22.2		
	Approach LOS		C		

Intersection Summary

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Movement	EBU	EBL	EBT	EBA	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations		77	ተተጉ			75	ተተተ	7	<u>አ</u> ካ	<u></u> ↑↑	7	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	1000
Lane Util. Factor		0.97	*0.72			0.97	0.91	1.00	0.97	0.95	1.00	
Frpb, ped/bikes		1.00	1.00			1.00	1.00	0.99	1.00	1.00	0.99	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.99			1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	Paragraphy.	0.95	1.00			0.95	1,00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		3433	3977			3400	4988	1546	3433	3539	1546	
Flt Permitted		0.95	1.00			0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		3433	3977			3400	4988	1546	3433	3539	1546	
Volume (vph)	3	105	1259	95	4	392	1501	225	163	334	460	20
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.94	0.94	0.94	0.94	0.82	0.82	0.82	0.84
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	130%	100%	100%	100%	100%	100%
Adj. Flow (vph)	3	113	1354	102	4	417	2076	239	199	407	561	24
RTOR Reduction (vph)	0	0	, , 0	0	0	0	0	48	0.	0	114	0
Lane Group Flow (vph)	0	116	1456	0	0	421	2076	191	199	407	447	0
Confl. Peds. (#/hr)	00/			2				2			2	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	4%	3%	2%	2%	3%	2%
Turn Type	Prot	Prot			Prot	Prot		Perm	Prot		Perm	Prot
Protected Phases	5	5	2		1	1	6		3	8		7
Permitted Phases		400						6			8	
Actuated Green, G (s)		10.3	32.8			15.1	37.6	37.6	23.6	29.7	29.7	
Effective Green, g (s)		10.3	34.5			15.1	39.3	39.3	23.6	31.0	31.0	
Actuated g/C Ratio		0.10	0.32			0.14	0.36	0.36	0.22	0.29	0.29	
Clearance Time (s)		4.0	5.7			4.0	5.7	5.7	4.0	5.3	5.3	
Vehicle Extension (s)		1.0	2.0	<del></del>		1.0	2.0	2.0	1.0	2.0	2.0	
Lane Grp Cap (vph) v/s Ratio Prot	40.00	327	1270			475	1815	563	750	1016	444	
v/s Ratio Perm		0.03	c0.37			0.12	c0.42		0.06	0.11		
v/c Ratio		0.25	1 45				Se et Tool	0.12			c0.29	
Uniform Delay, d1		0.35 45.7	1.15			0.89	1.14	0.34	0.27	0.40	1.01	
Progression Factor		1.00	36.8			45.6	34.4	24.9	35.0	31.0	38.5	
Incremental Delay, d2		0.2	1.00 75.6			1.00	1.00	1.00	1.00	1.00	1.00	
Delay (s)			112.3			17.3	71.8	1.6	0.1	0.1	44.4	
Level of Service		40.0 D	F			62.9	106.2	26.6	35.1	31.1	82.9	
Approach Delay (s)			107.4	ar Alba		E	F	C	D	С	F	
Approach LOS			F				92.6			56.7		
	i Nadiona di Baltima di Angala and Sanda	Wicklas batterion					F	17 4		E		
Intersection Summary												
HCM Average Control De			83.3	H	CM Lev	el of Se	rvice		F			
HCM Volume to Capacity			1.04						•			
Actuated Cycle Length (s			108.0			st time (			12.0			
Intersection Capacity Util	ızatıon	8	6.5%	IC	U Level	of Serv	rice		E			
Analysis Period (min)			15									
c Critical Lane Group												



	•		•	•	<b>+</b>	4	4	1	<i>&gt;</i>	1	1	4
Movement	EBL	EBT	EBR	WBL	WBT	WBA	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		tttt	7		ተተው					ኻኻ		77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0					4.0		4.0
Lane Util. Factor		*0.75	1.00		0.91					0.97		0.88
Frpb, ped/bikes	+ ,	1.00	1.00		1.00					1.00		1.00
Flpb, ped/bikes	1. "	1.00	1.00		1.00					1.00		1.00
Frt		1.00	0.85		0.98					1.00		0.85
Fit Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		5534	1583		4912					3433		2760
Fit Permitted	- 4	1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		5534	1583		4912					3433		2760
Volume (vph)	0	1802	138	0	783	139	0	0	0	690	0	1339
Peak-hour factor, PHF	0.92	0.92	0.92	0.84	0.84	0.84	0.92	0.92	0.92	0.88	0.88	0.88
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	150%
Adj. Flow (vph)	0	1959	150	0	932	165	0	0	0	784	0	2282
RTOR Reduction (vph)	0	0	55	0 1	28	0	0	0	0	0	0	10
Lane Group Flow (vph)	O <sub>1</sub>	1959	95	0	1069	0	0	0	0	784	0	2272
Confl. Peds. (#/hr)	00/	00/	00/			2						
Heavy Vehicles (%)	2%	3%	2%	2%	3%	2%	2%	2%	2%	2%	2%	3%
Turn Type Protected Phases		_	Perm						C	ustom	С	ustom
		2	_		6					4		
Permitted Phases		04.4	2							4		4
Actuated Green, G (s)		24.4	24.4		24.4					53.7		53.7
Effective Green, g (s)		26.7	26.7		26.7					55.3		55.3
Actuated g/C Ratio Clearance Time (s)		0.30	0.30		0.30					0.61		0.61
Vehicle Extension (s)		6.3	6.3		6.3					5.6		5.6
		4.3	4.3		4.9					3.4		3.4
Lane Grp Cap (vph) v/s Ratio Prot	1.	1642	470		1457					2109		1696
v/s Ratio Prot v/s Ratio Perm		c0.35	0.00	. ,	0.22					0.23		
v/s natio remi		4 40	0.06									c0.82
Uniform Delay, d1		1.19	0.20		0.73					0.37		1.34
Progression Factor		31.6 1.00	23.7		28.5				To the second	8.7		17.4
Incremental Delay, d2		93.2	1.00		1.00					1.00		1.00
Delay (s)		124.8	0.3		2.3					0.1		156.9
Level of Service			24.0		30.8					8.8		174.3
Approach Delay (s)		F 1177	С		C					Α		. ; F
Approach LOS		117.7 F			30.8			0.0		-	131.9	
		F			C	ta esta		Α			F	
Intersection Summary										1		
HCM Average Control De			109.5	H	CM Lev	el of Sei	vice		F			
HCM Volume to Capacity			1.29	-								
Actuated Cycle Length (s		1.00	90.0			st time (			8.0			
Intersection Capacity Util	ization	9	5.2%	IC	U Level	of Serv	ice		F			
Analysis Period (min)			15									
c Critical Lane Group												

	<b>&gt;</b>	<b>→</b>	•	1	<b>←</b>	•	•	<b>†</b>	<b>/</b>	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>ተ</b> ቀሱ	7		ተተተ	7	ኻ		7			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0		4.0			
Lane Util. Factor		0.86	0.86		0.91	1.00	1.00		1,00			
Frpb, ped/bikes		1.00	1.00		1.00	0.98	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		0.98	0.85		1.00	0.85	1.00		0.85			
FIt Protected	4.4	1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		4682	1335		5085	1550	1752		1538 1.00			
Flt Permitted		1.00	1.00		1.00 5085	1.00 1550	0.95 1752		1538		the state of	
Satd. Flow (perm)		4682	1335		732	457	190	0	148	0	0	0
Volume (vph)	0 00	1337	1155 0.92	0 0.91	0.91	0.91	0.90	0.90	0.90	0.92	0.92	0.92
Peak-hour factor, PHF	0.92	0.92 1453	1255	0.91	804	502	211	0.30	164	0.52	0.32	0.32
Adj. Flow (vph)	0	36	0	0	0	0	0	0	11	0	0	0
RTOR Reduction (vph) Lane Group Flow (vph)	0	1678	994	0	804	502	211	ő	153	0	ŏ	Ö
Confl. Peds. (#/hr)		1070	. 557	. •	00-1	2	. = 4 400					. •
Heavy Vehicles (%)	2%	2%	4%	2%	2%	2%	3%	2%	5%	2%	2%	2%
Turn Type	/-		Free			Free	Prot		ustom			
Protected Phases	8 1 L	2			6		8					
Permitted Phases		· ¬	Free			Free			8			
Actuated Green, G (s)		27.2	51.1	1.1	27.2	51.1	13.8		13.8			
Effective Green, g (s)		28.1	51.1		28.1	51.1	15.0		15.0			
Actuated g/C Ratio		0.55	1.00		0.55	1.00	0.29		0.29			
Clearance Time (s)		4.9			4.9		5.2		5.2			
Vehicle Extension (s)		5.7	<u>. Paragonal</u>		5.7	get si bes	5.3		5.3			<u> </u>
Lane Grp Cap (vph)		2575	1335		2796	1550	514		451			
v/s Ratio Prot		0.36			0.16		0.12					
v/s Ratio Perm			c0.74			0.32	20 12 12		0.10			
v/c Ratio		0.65	0.74		0.29	0.32	0.41		0.34			
Uniform Delay, d1		8.1	0.0		6.1	0.0	14.5		14.2			
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.9	3.8		0.1	0.6	1.2		1.0			
Delay (s)		9.0	3.8		6.3 A	0.6	15.7 B		15.2 B			
Level of Service		A 7.1	Α			A	D	15.5			0.0	
Approach Delay (s)		7.1 A		vi Poliči	4.1			13.3 B	+ 4.5		Α	
Approach LOS		^			^			U			7	. /. / 100. (2011) . M. (2005) / (2)
Intersection Summary												1
HCM Average Control D			6.9	H	ICM Le	vel of Se	ervice		A		**	
HCM Volume to Capacit			0.74									
Actuated Cycle Length (	. *		51.1			ost time			0.0			
Intersection Capacity Ut	ilization		51.6%	ŀ	CU Lev	el of Ser	vice		Α			
Analysis Period (min)			15									
c Critical Lane Group	· · · · · · · · · · · · · · · · · · ·											

	ጛ	۶	<b>→</b>	•	Ģ.	•	♣	•	₽Ĩ	1	†	<i>*</i>
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		ă	ተተጐ			Ž	ተተ <sub>ጉ</sub>			Ä	<u>- 1,001</u> ↑↑	<u>اردادا .</u> ام
	1900		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0		#	4.0	4.0	4.0
Lane Util. Factor		1,00	0.91			1.00	0.91			1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00			1.00	1.00			1.00	1.00	1.00
Frt		1.00	0.97			1.00	0.98			1.00	1.00	0.85
Flt Protected		0.95	1.00			0.95	1.00			0.95	1.00	1.00
Satd. Flow (prot)		1770	4893			1770	4989			1770	3539	1555
FIt Permitted		0.95	1.00			0.95	1.00			0.95	1.00	1.00
Satd. Flow (perm)		1770	4893			1770	4989	Th. 12.7	*.	1770	3539	1555
Volume (vph)	13	229	828	233	24	82	832	103	21	208	183	85
	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.82	0.82	0.82	0.82
Adj. Flow (vph)	14	244	881	248	26	88	895	111	26	254	223	104
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	91
Lane Group Flow (vph)	0	258	1129	0	0	114	1006	ŏ	Ő	280	223	13
Confl. Peds. (#/hr)				7				7		200	220	4
Turn Type	Prot	Prot			Prot	Prot	1.151		Prot	Prot		
Protected Phases	5	5	2		1	1	6		3			Perm
Permitted Phases							U		. 3	3	8	•
Actuated Green, G (s)		19.6	44.1			9.6	34.1			10.0	40.4	8
Effective Green, g (s)		19.6	45.4			9.6	35.4			18.6	12.4	12.4
Actuated g/C Ratio		0.18	0.42			0.09	0.33			18.6	13.7	13.7
Clearance Time (s)		4.0	5.3			4.0	5.3			0.17	0.13	0.13
Vehicle Extension (s)		1.0	2.0			1.0	2.0			4.0	5.3	5.3
Lane Grp Cap (vph)	. 17	321	2057			157	1635			1.0	2.0	2.0
v/s Ratio Prot		c0.15	0.23			0.06	c0.20		- 14	305	449	197
v/s Ratio Perm			J.E.			0.00	00.20			c0.16	0.06	
v/c Ratio		0.80	0.55			0.73	0.62				- 1 - 1 - 1	0.01
Uniform Delay, d1		42.4	23.6	4.4		47.9	30.6			0.92	0.50	0.07
Progression Factor		1.00	1.00			1.00				44.0	43.9	41.5
Incremental Delay, d2		12.8	1.1			13.2	1.00			1.00	1.00	1.00
Delay (s)		55.2	24.6			61.1	1.7			30.4	0.3	0.1
Level of Service		E E	C C			61.1 E	32.3			74.3	44.3	41.6
Approach Delay (s)		<del>-</del>	30.3			. =	C			E	D	D
Approach LOS		2. 2. 1	00.5 C				35.2				57.7	
Intersection Summary			U				D				Е	
			20.0									
HCM Average Control Delay HCM Volume to Capacity ra			38.3	HC	CM Leve	el of Se	rvice		D			
	llo		0.74	-								•
Actuated Cycle Length (s)			108.0		m of lo				16.0			
Intersection Capacity Utiliza	แดก	6	8.0%	ICI	U Level	of Serv	/ice		С			
Analysis Period (min)			15									
c Critical Lane Group												

	i.	<b>\</b>	1	4	
Movement	SBU	SBL	SBT	SBR	
Lan Configurations		ă	<b>∱</b> }		
Ideal Flow (vphpl)	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0	g, c. 1045	
Lane Util. Factor		1.00	0.95		
Frpb, ped/bikes		1.00	0.99		
Flpb, ped/bikes		1.00	1.00		
Frt		1.00	0.94		
Flt Protected		0.95	1.00		
Satd. Flow (prot)		1770	3306		
Flt Permitted		0.95	1.00		
Satd. Flow (perm)		1770	3306		
Volume (vph)	6	125	191	129	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	
Adj. Flow (vph)	8	156	239	161	
RTOR Reduction (vph)	0	0	0	0	
Lane Group Flow (vph)	0	164	400	0	
Confl. Peds. (#/hr)		<u></u>		2	
Turn Type	Prot	Prot			
Protected Phases	7	7	4		and the second of the second o
Permitted Phases					
Actuated Green, G (s)		23.3	17.1		en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de
Effective Green, g (s)		23.3	18.4		the way to be a supplied to the control of the control of the
Actuated g/C Ratio		0.22	0.17 5.3		and the second of the second o
Clearance Time (s)		4.0 1.0	2.0		
Vehicle Extension (s)	ATT COL	382	563		
Lane Grp Cap (vph)		0.09	c0.12		
v/s Ratio Prot v/s Ratio Perm		0.09	CU.12		
v/s Hatio Perm		0.43	0.71		
Uniform Delay, d1		36.6	42.3	erite i are	e engle <mark>st, in transportant steller in the problem of the steller in the steller </mark>
Progression Factor		1.00	1.00		and the commentation of the comment of the comment of the comment of the comment of the comment of the comment
Incremental Delay, d2		0.3	3.5		
Delay (s)		36.9	45.8		
Level of Service		D	D		2000年10日 - 1000年10日 -
Approach Delay (s)			43.2		
Approach LOS			D	A Land	
· Ark. Additional designation of the					

Intersection Summary

## INTEROFFICE CORRESPONDENCE



To

Steven McDonald (Caltrans) KoKo Widyatmoko (Caltrans) From

Jose Mortero

Cc

Bob Scales (TRIP/Parsons) Rabindra Puttagunta (TRIP/Parsons) David Woo Luis Porello

Subject

Centennial Corridor Project
Existing Truck Volumes & Percentages

Date

April 21, 2009

This memo describes the data, assumptions and approach used to develop existing truck volumes on State Route (SR) 58 and SR 99 mainline segments and ramps for the Centennial Corridor Project. It also presents the recommended truck volumes and percentages to be used for existing conditions analysis. Future truck volumes and percentages to be used for opening year and design year analyses will be documented in a separate memo.

Tables 1 to 3 show the existing peak hour truck volumes and percentages recommended for use in the existing conditions analysis. The Total Volumes are based on existing count information, adjusted to reflect balanced volumes between freeway mainline segments and ramps. The truck volumes were derived from truck count data collected for the SR 58 Truck O&D Study (hereinafter referred to as the KOA Study). The KOA Study collected truck counts at SR 99 / SR 58 system interchange ramps as well as at the SR 99 Rosedale interchange ramps in Spring and Fall 2008. Truck counts were collected for the KOA Study for the AM (6-9 AM), midday (11 AM – 2 PM), and PM (4-7 PM) peak periods. Counts were recorded by 15-minute intervals. HNTB tabulated the truck count data by 15-minute intervals and summarized the data by 60-minute running totals. Attachment A shows the tabulated and summarized truck count data.

Based on the tabulated truck count data, 7-8 AM and 4-5 PM were determined to be the peak hours for truck operations. The data also showed that peak hour truck volumes were generally higher in Fall than in

<sup>&</sup>lt;sup>1</sup> KOA, SR 58 Origin and Destination Truck Study Draft Report, January 26, 2009.

Spring. The Spring counts also have missing count data. For these reasons, the Fall 2008 data was used for deriving the peak hour truck volumes for analysis.

Based on available peak hour ramp vehicle classification counts provided by TRIP for SR 99 interchanges at Olive Drive and Airport Drive, the following peak hour truck percentage assumptions were used for interchanges within the Centennial Corridor project study area:

- Ming Avenue, California Avenue and Airport Drive 8 percent trucks. These interchanges are located in predominantly commercial / industrial areas expected to generate significant amount of truck traffic.
- White Lane, H Street, Chester Avenue and Union Avenue 6 percent trucks. These interchanges are located in predominantly residential areas that are expected to generate less truck traffic.

Peak hour truck volumes on these ramps were calculated by applying the peak hour truck percentage assumption to the total ramp volumes.

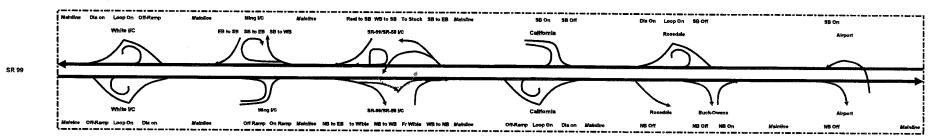
Truck volumes for the SR 99 / SR 58 system interchange ramps as well as for the SR 99 / Rosedale Highway interchange ramps were derived from the KOA Study as described above, and were used as control totals. Truck volumes for the SR 99 and SR 58 mainline freeway segments in the immediate vicinity of the system interchange were calculated from the system interchange ramp volumes. Truck volumes for mainline freeway segments outside of the vicinity of the system interchange ramps were calculated by working from the control totals, and adding/subtracting the on/off-ramp truck volumes.

EXISTING VOLUMES (2007/2008)							-14	
			EXIS	STING (200	7/2008) C	DUNTS		
LOCATION		ΑN	Peak			PM	Peak	
19. 시스크 온영 가장, [영호] [20] 19. 19. 19. 19. 19. 19. 19. 19. 19. 19.	Cars	Trucks	Total Volume	Truck %	Cars	Trucks	Total Volume	Truck %
SR-99 Mainline NB (North of Airport)	1 202	722	2,014	26%	1 001	485	dan sa kata	209/
SR 99 Airport NB Off	1,292 1,383	722 120	1,503	36% 8%	1,991 1,104	485 96	2.476 1,200	20% 8%
SR-99 Mainline NB (Bet. Rosedale & Airport)	2.674	843	3.517	24%	3.095	581	3.676	16%
SR 99 Buck-Owens NB On	224	42	266	16%	527	5	532	1%
SR 99 Buck-Owens NB Off	671	28	699	4%	213	63	276	23%
SR 99 Rosedale NB Off	1,633	97	1,730	6%	1,668	92	1,760	5%
SR-99 Mainline NB (Bet. California & Rosedale) SR 99 California NB On (Diagonal)	236	<u>926</u> 21	<u>5.680</u> 257	16% 8%	<u>4.449</u> 196	731 17	<u>5.180</u> 213	14% 8%
SR 99 California NB On (Loop)	431	38	469	8%	579	50	629	8%
SR 99 California NB Off	972	84	1,056	8%	624	54	878	8%
SR-99 Mainline NB (Bet. SR-58 & California)	5.058	952	6.010	16%	4,298	718	<u>5,016</u>	14%
SR 99 NB On from SR-58 WB	811	277	1,088	25%	793	291	1,084	27%
SR 99 NB Offto SR-58 EB SR 99 NB On from Wible	1,355 505	156	1,511 505	10%	1,092 555	97	1,189 555	8% 0%
SR 99 NB Off to Wible Road	248	0	248	0%	268	0	268	0%
SR-99 Meinline NB (Bet. Ming & SR-58)	5.345	831	6.176	13%	4.310	524	4.834	11%
SR 99 Ming NB On (Diagonal)	1,181	103	1,284	8%	1,134	99	1,233	8%
SR 99 Ming NB Off	282	24	306	8%	374	32	406	8%
SR-99 Mainline NB (Ret. White & Ming)	4.443 640	753	5.196 601	14%	3.549 430	458	4.007	11%
SR 99 White NB On (Diagonal) SR 99 White NB On (Loop)	1,434	41 92	681 1,525	6% 6%	430 1,086	27 69	457 1,155	6% 6%
SR 99 White NB Off	192	12	204	8%	318	20	338	6%
SR-99 Mainline NB (South of White)	2.561	633	3.194	20%	2.352	381	2.733	14%
SR-99 Mainline SB (North of Airport)	1.447	627	2.074	30%	<u>2.416</u>	734	<u>3.150</u>	23%
SR 99 Airport SB On	1,020	80	1,109	8%	1,513	132	1,645	8%
SR-99 Maintine SB (Bet. Airport & Rosedate) SR 99 Rosedale SB Off	2.467 541	716	3.183 585	22% 8%	3.929 598	<u>866</u> 35	<u>4.795</u> 633	<u>18%</u> 6%
SR 99 Rosedale SB On (Loop)	595	103	698	15%	1,241	26	1,267	2%
SR 99 Rosedala SB On (Diagonal)	810	107	-917	12%	1,075	116	1,191	10%
SR-99 Mainline SB (Bet. Rosedale & California)	3.331	882	4.213	21%	<u>5.647</u>	973	6.620	15%
SR 99 California SB Off	908	79	987	8%	945	82	1,027	8%
SR 99 California SB On (loop)	293	25	318	8%	777	68	845	8%
\$ <i>R-99 Mainline SB (Bet. California &amp; SR-58)</i> SR 99 SB Off to SR-58 EB	2.716 869	227	3,544 1,096	23% 21%	<u>5.480</u> 1,102	9 <u>58</u> 348	<u>6.438</u> 1,450	<u>15%</u> 24%
SR 99 SB On from SR-58 WB	797	136	933	15%	1,112	12	1,124	1%
SR 99 SB Off to Stockdale Hwy	349	0	349	0%	446	[ 0 ]	446	0%
SR 99 SB On from Real Road	243	12	255	5%	252	19	271	7%
<u>SR-99 Mainline SB (Bet. SR-58 &amp; Ming)</u> SR 99 Ming SB Off to WB & EB	2,571 729	- <u>716</u>	<u>3,287</u> 792	22% 8%	<u>5.234</u> 1,432	703 125	<u>5,937</u>	<u>12%</u> 8%
SR 99 Ming SB Off to WB	470	41	511	8%	805	70	1,557 875	8%
SR 99 Ming SB Off to EB	259	22	281	8%	627	55	682	8%
SR 99 Ming SB On (Diagonal)	224	20	244	8%	421	37	458	8%
SR-99 Mainline SB (Bet. Ming & White)	2.130	609	2.739	22%	4.347	491	4.838	<u>10%</u>
SR 99 White SB Off	1,285	82	1,367	6%	1,898	121	2,019	6%
SR 99 White SB On (Loop) SR 99 White SB On (Diagonal)	101 132	8	107 140	6% 6%	124 125	8 8	132	6% 6%
SR-99 Mainline SB (South of White)	1.077	542	1.619	33%	2.699	385	3,084	12%
SR-58 Mainline EB (Bet. Real Road & Off Ramp to SR-99 SB)	1.150	51	1.201	4%	1,004	72	1.076	7%
Real Road Off to 99 SB	243	12	255	5%	252	19	271	7%
SR 58 On Ramp from 99 SB	689	227	1,096	21%	1,102	348	1,450	24%
SR 58 On Ramp from 99 NB SR-58 Mainline EB (Bet. SR-99 after ramps & H Street)	1,355	156	1,511	10%	1,092	97	1,189	8%
SR 58 H Street EB Off	3.131 385	<u>422</u> 25	<u>3.553</u> 410	12% 6%	2.946 376	498 24	3.444 400	<u>14%</u> 6%
SR 58 Chester EB On	445	28	473	6%	527	34	561	6%
SR-58 Mainline EB (Bet. H Street & Union)	3.190	<u>426</u>	3.616	12%	3.097	<u>508</u>	3.605	14%
SR 58 Union EB Off Ramp	775	49	824	6%	528	34	562	6%
SR 58 Union EB On Ramp (Loop)	163	10	173	6%	211	13	224	6%
SR 58 Union EB On Ramp (Diagonal) SR-58 Mainline EB (Bet. Union & Cottonwood)	185 <b>2.763</b>	12 399	197	6% 13%	224 3.003	14	238	6%
6R-58 Mainline WB (Bet, Cottonwood & Union)	2.688	399 456	3.162 3.144	15% 15%	2.632	502 415	3.505 3.047	14% 14%
R 58 Brundage WB Off Ramp	465	30	495	6%	317	20	337	6%
R 58 Brundage WB On Ramp	175	11	186	6%	228	15	243	6%
SR 58 Union WB On Ramp	227	14	241	6%	333	21	354	6%
6R-58 Mainline WB (Bet. Union & H Street)	<u>2.616</u>	460	3,076	15%	2,907	400	3.307	12%
SR 58 Chester WB Off SR 58 H Street WB On	431 313	28 20	459 333	6% 6%	429 437	27 28	456 465	6% 6%
SR-58 Mainline WB (Bet. H Street & SR-99)	2.482	468	2.950	16%	2.917	399	3.316	12%
SR 58 WB Off to SR-99 NB	811	277	1,088	25%	793	291	1,084	27%
SR 58 WB Off to SR-99 SB	797	136	933	15%	1,112	12	1,124	1%
R-58 Mainline WB (Bet. Real Road & SR-99 SB On)	<u>841</u>	<u>88</u>	929	9%	<u>1.074</u>	34	1.108	<u>3%</u>

Table 2
CENTENNIAL CORRIDOR PROJECT
EXISTING FREEWAY AND RAMP VOLUMES - SR 99

	Existin	gg																							
	Cars	1.077	132	101	1.285	<u>2.130</u>	224	259	470	2.571	24	197	349	869	2,716		293	908	3.331	<u>810</u>	595	541	2,467	1.020	1.447
AM	Trucks	542	8	6	82	609	20	22	41	716	12	136	0	227	828		25	79	882	107	103	44	716	89	627
	Total	1,619	140	107	1,387	2,739	244	281	511	3,287	25	5 933	349	1,096	3,544		318	987	4,213	917	698	585	3,163	1,109	2.074
		Vandrinaans.	inione mi	danisi sina	معتمين شيية	<u>nanik Karagair.</u>	د المستعددة	تنييزيها شجيا	dissina.	addiam dan karinin		anamen itariki	dania wazii		and delications	and Sainte Marketines	anainina.	anida ili	a de la companya	Maria de Caración	in de la comina	idal sinnida		.,,	2,074
	Cers	2,699	<u>125</u>	1 <del>24</del>	<u>1.898</u>	4.347	<u>421</u>	627	805	5,234	25	1.112	<u>44</u> 6	1.102	5,460		<i>1</i> 17	945	5,647	1.075	1.241	598	2,929	1,513	2,419
1284	Trucks	385	8	8	121	401	37	55	70	703	15	12	0	348	958		68	82	979	116	26	35	266	132	734
	Total	3,034	133	132	2,019	4.838	458	682	875	5,937	27	1 1,124	446	1,450	6,438		845	1.027	5.620	1,191	1.267	633	4.798	1.845	2.460
		,																					1914 3515		o,100 L

### SOUTHBOUND



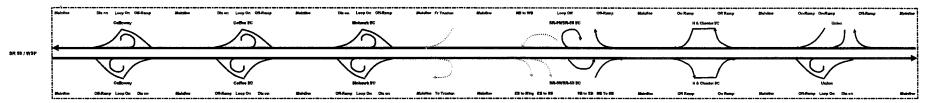
### NORTHBOUND

	Existing	8																							
	<u>Cars</u>	<u>2,561</u>	192	1.434	640	4,443	282	1.181	5,345	1,355	248	505	811	5,058		972	<u>431</u>	236	4.754	1,633	971	224	2,674	1,383	1,292
AM	Trucks	633	12	92	41	753	24	103	831	156	0	0	277	952		84	38	21	926	97	28	42	843	120	722
	Total	3,194	204	1,525	681	5,196	306	1,284	6,176	1,511	248	505	1,088	6,010		1,058	469	257	5,660	1,730	699	266	3,517	1,503	2.014
	initia mirro	pudd oddella		Ministrations	والأشتشاء ويمروه	ir olir Sood ( Jersser saan	الرسماني ويونزنون	de Maria	and the same	ولأرد وبالقليم		<u> </u>	مقال مشمش		on mentals	تدائده معاثلية		834	ai Karali		indexion of	disting in the			
	Cars	2,357	318	1,086	<u>430</u>	3,549	<u>374</u>	<u>1,134</u>	4,310	1,092	<u>268</u>	555	<u>793</u>	4,293		624	579	196	4.449	1,668	213	527	3,005	1,104	8,991
PM	Trucks	397	20	69	27	<b>4</b> 5₽	32	99	524	97	0	0	291	718		54	50	17	737	92	63	5	584	98	485
	Total	2,733	338	1,155	457	4,097	406	1,233	4,334	1,189	268	555	1,084	5,016		678	629	213	5,180	1,760	278	532	3,67s	1,200	2,475

Table 3
CENTENNIAL CORRIDOR PROJECT
EXISTING FREEWAY AND RAMP VOLUMES - SR 58

	WSP	£	gethala											
	Cers		ere .	941	797	<b>a</b> 11	2,492	313	431	2,616	227	175	405	2,698
AM	Trucks	מ	Jacks	25	136	277	465	20	28	460	14	11	30	455
	Total	τ.	otel	923	933	1,088	2,850	333	469	3,076	241	186	496	3,144
	Cere		972	7,574	1.113	793	2.017	437	423	3.657	233	228	317	2.635
2746	Trucks		rucks	36	12	201	199	28	27	600	21	16	20	515
	Total	7.	rotal i	1,108	1,124	1,084	3,336	445	484	3,357	364	243	337	2,847

#### WESTSOUND



#### EASTBOUND

wer	Ealoriting	g											
Cara .	Sin	1.159	180 <b>243</b>	<u>949</u>	1.355	3,121	30E	445	3,190	77.B	163	122	2.763
AM Trucks	Trucks	51	1 12	227	158	422	25	28	426	49	10	12	,799
Total	Total	1,201	261 258	1,096	1,511	3,663	410	473	3,616	824	173	197	3,162
Çera .	The state of the s	1.00	× 242	1,102	1.092	2.248	376	(19 <u>16-10-16-16-16-16-16-16-16-1</u>	2 197	528	211	724	3 000
Trycke	Trucks	,,,	7 19	348	97	100	24	24	500	24	13	14	2.5
Total	Total	1			1,189	n ado	400	861	1.00	562	224	238	

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### **ATTACHMENT A**

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### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT SR-58 AND SR-99 SUMMARY AND RECOMMENDATIONS

					Ex	sting Data F	rom KOA	Study				Recomme	endations	
	Location	Season		AM Peak He	our (7-8 A	M)		PM Peak H	our (4-5 P	M)	AM Peal	k Hour	PM Pea	k Hour
			Cars	Trucks	Total	% Trucks	Cars	Trucks	Total	% Trucks	Truck Vol.	Truck %	Truck Vol.	Truck %
		Fall	904	156	1,060	15%	945	97	1,042	9%	156	15%	97	9%
s	SR 99 NB Connector to SR 58 EB	Spring	1,273	119	1,392	9%	1,024	99	1,123	9%	130	1076	31	370
Connectors	00.00.00	Fali	763	277	1,040	27%	715	291	1,006	29%	277	27%	291	29%
auu.	SR 58 WB Connector to SR 99 NB	Spring	855	261	1,116	23%	1,514	234	1,748	13%	211	2770	251	2370
ပ္ထိ	00 00 00 0 1: 1: 00 50 50	Fall	719	227	946	24%	1,037	348	1,385	25%	227	24%	348	25%
R 58	SR 99 SB Connector to SR 58 EB	Spring	NA -	NA	NA	NA	NA	NA	NA	NA	221	2476	340	20%
SR 99 / SR		Fail	589	136	725	19%	182	12	194	6%	136	19%	12	6%
86	SR 58 WB Connector to SR 99 SB	Spring	NA.	NA	NA	NA	NA	NA	NA	NA	136	1976	12	0 76
S	OD 50 5D O OD 00 OD	Fali	157	12	169	7%	226	19	245	8%	12	7%	19	8%
	SR 58 EB Connector to SR 99 SB	Spring	NA	NA	NA	NA	NA	NA	NA	NA.	12	7 70	13	070
	OD OO NO MAISTER/- OD 50	Fail	6,016	831	6,847	12%	4,249	524	4,773	11%	831	12%	524	11%
	SR 99 NB Mainline s/o SR 58	Spring	5,638	574	6,212	9%	4,399	453	4,852	9%	651	12 /0	324	1170
line	CD CO CD Mainline of CD EQ	Fall	2,738	716	3,454	21%	3,942	703	4,645	15%	716	21%	703	15%
Aain	SR 99 SB Mainline s/o SR 58	Spring	NA	NA	NA	NA	NA	NA	NA	NA	710	2170	703	1570
99 Mainline	OD 00 ND M-1-1 /- OD 50	Fall	5,875	952	6,827	14%	4,019	718	4,737	15%	952	14%	718	15%
SR	SR 99 NB Mainline n/o SR 58	Spring	5,220	716	5,936	12%	4,889	588	5,477	11%	932	1-7-70	/10	1570
İ	SR 99 SB Mainline n/o SR 58	Fall	2,550	828	3,378	25%	3,679	958	4,637	21%	828	25%	958	21%
	SR 99 SB Mainline n/o SR 56	Spring	NA	NA	NA	NA	NA	NA	NA	NA	0.0	2070		
	CD 50 FD Mainline ale CD 00	Fall	2,454	422	2,876	15%	2,695	498	3,193	16%	422	15%	498	16%
	SR 58 EB Mainline e/o SR 99	Spring	NA.	NA	NA	NA	NA	NA	NA	NA	422	1070	430	1070
je	OD 50 MD Mainline of SD 00	Fall	2,248	468	2,716	17%	2,891	399	3,290	12%	468	17%	399	12%
58 Mainline	SR 58 WB Mainline e/o SR 99	Spring	NA	NA	NA	NA	NA	NA	NA	NA	700	17.70	000	12.70
28 1	CD 50 5D Maialine/a CD 00	Fall	988	51	1,039	5%	939	<sup>^</sup> 72	1,011	7%	51	5%	72	7%
SR	SR 58 EB Mainline w/o SR 99	Spring	NA.	NA	NA	NA	NA	NA	NA	NA	Ŭ.	0.0		
	OD 50 WD Mainline w/a SD 00	Fall	735	88	823	11%	1,102	34	1,136	3%	88	11%	34	3%
	SR 58 WB Mainline w/o SR 99	Spring	1,234	115	1,349	9%	1,751	84	1,835	5%	- 00	1170	Ů,	0,0
	OF COAID OF Paras at Passadala	Fall	1,151	97	1,248	8%	1,484	92	1,576	6%	97	8%	92	6%
	SR 99 NB Off-Ramp at Rosedale	Spring	1,090	90	1,180	8%	1,185	108	1,293	8%	, , , , , , , , , , , , , , , , , , ,	070	\\ \frac{1}{2}	070
ĺ	00 00 ND 07 D (D  0	Fail	497	28	525	5%	293	63	356	18%	28	5%	63	18%
ူ ဗွ	SR 99 NB Off-Ramp at Buck Owens	Spring	511	52	563	9%	234	42	276	15%	20	370	00	1070
lam (	OD OO NO O DO O O O O	Fall	255	42	297	14%	520	5	525	1%	42	14%	5	1%
S F	SR 99 NB On-Ramp at Buck Owens	Spring	220	49	269	18%	387	40	427	9%	7	1470	<u> </u>	
Rosedale I/C Ramps	OD OO OD OF Daw at Daw dat	Fall	209	44	253	17%	411	35	446	8%	44	17%	35	8%
sed	SR 99 SB Off-Ramp at Rosedale	Spring	315	34	349	10%	423	32	455	7%	44	1770		
8	SR 99 SB On-Ramp at Rosedale	Fall	383	107	490	22%	786	116	902	13%	107	22%	116	13%
1	(Diagonal)	Spring	654	90	744	12%	1,030	80	1,110	7%	107	££ /0	110	1370
	SR 99 SB On-Ramp at Rosedale	Fall	275	103	378	27%	727	26	753	3%	103	27%	26	3%
	(Loop)	Spring	556	48	604	8%	843	47	890	5%	100	£1 /0		370
	e: Parsons/HNTB analysis of data from I	VO. D. O.D.		D 50 0-1-1-	J D4	- Man Tarak	Charles Inc		00					

Source: Parsons/HNTB analysis of data from KOA, Draft Report for SR-58 Origin and Destination Truck Study, January 26, 2009.

Note: Recommendations based on Fall data due to generally higher volumes as well as incomplete Spring data.

NA - Count data not available.

# SR 99 / SR 58 SYSTEM INTERCHANGE RAMPS

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NBR-SR 99	NB to S	R 58 EB -	Spring	"SR-99 N	B off-ramp co	onnecto	r to SR-5	8 EB"		NBR-SR 99	NB to S	R 58 EB -	Fall "SR	-99 NB C	off-Ramp Con	nector S	R-58"		
		AM Peak			,		PM Peak					AM Peak					PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	116	29	145		16:00-16:15	275	19	294		6:00-6:15	220	38	258		16:00-16:15	245	30	275	
6:15-6:30	147	25	172		16:15-16:30	268	27	295		6:15-6:30	281	37	318		16:15-16:30	246	22	268	
6:30-6:45	202	24	226		16:30-16:45	250	31	281		6;30-6;45	307	28	335		16:30-16:45	238	20	258	
6:45-7:00	245	30	275		16:45-17:00	231	22	253		6:45-7:00	369	43	412		16:45-17:00	216	25	241	
7:00-7:15	239	23	262		17:00-17:15	255	28	283		7:00-7:15	319	39	358		17:00-17:15	230	27	257	
7:15-7:30	315	25	340		17:15-17:30	236	17	253		7:15-7:30	228	51	279		17:15-17:30	248	22	270	
7:30-7:45	348	33	381		17:30-17:45	236	22	258		7:30-7:45	182	36	218		17:30-17:45	269	25	294	
7:45-8:00	371	38	409		17:45-18:00	252	17	269		7:45-8:00	175	30	205		17:45-18:00	265	19	284	
8:00-8:15	298	38	336		18:00-18:15	222	21	243		8:00-8:15	103	20	123		18:00-18:15	202	19	221	
8:15-8:30	269	31	300		18:15-18:30	203	16	219		8:15-8:30	120	17	137		18:15-18:30	210	17	227	
8:30-8:45	195	25	220		18:30-18:45	204	22	226		8:30-8;45	180	25	205		18:30-18:45	148	10	158	
8:45-9:00	206	25	231		18:45-19:00	190	17	207		8:45-9:00	222	47	269		18:45-19:00	184	10	194	
6:00-7:00	710	108	818	13%	16:00-17:00	1,024	99	1,123	9%	6:00-7:00	1,177	146	1,323	11%	16:00-17:00	945	97	1,042	9%
6:15-7:15	833	102	935	11%	16:15-17:15	1,004	108	1,112	10%	6:15-7:15	1,276	147	1,423	10%	16:15-17:15	930	94	1,024	9%
6:30-7:30	1,001	102	1,103	9%	16:30-17:30	972	98	1,070	9%	6:30-7:30	1,223	161	1,384	12%	16:30-17:30	932	94	1,026	9%
6:45-7:45	1,147	111	1,258	9%	16:45-17:45	958	89	1,047	9%	6:45-7:45	1,098	169	1,267	13%	16:45-17:45	963	99	1,062	9%
7:00-8:00	1,273	119	1,392	9%	17:00-18:00	979	84	1,063	8%	7:00-8:00	904	156	1,060	15%	17;00-18:00	1,012	93	1,105	8%
7:15-8:15	1,332	134	1,466	9%	17:15-18:15	946	77	1,023	8%	7:15-8:15	688	137	825	17%	17:15-18:15	984	85	1,069	8%
7:30-8:30	1,286	140	1,426	10%	17:30-18:30	913	76	989	8%	7:30-8:30	580	103	683	15%	17:30-18:30	946	80	1,026	8%
7:45-8:45	1,133	132	1,265	10%	17:45-18:45	881	76	957	8%	7:45-8:45	578	92	670	14%	17:45-18:45	825	65	890	7%
8:00-9:00	968	119	1,087	11%	18:00-19:00	819	76	895	8%	8:00-9:00	625	109	734	15%	18:00-19:00	744	56	800	7%
Total	2,951	346	3,297	10%	Total	2,822	259	3,081	8%	Total	2,706	411	3,117	13%	Total	2,701	246	2,947	8%
WBR-SR 58	WB to	SR 99 NB	- Spring	"SR-58	off ramp con	nector t	o SR-99 N	IB"		WBR-SR 58	WB to	SR 99 NB	- Fall "S	R-99 NB	n/o Stockdal	e Hwy SF	R-58 Off-Ram	p Connecto	r"
		AM Peak				!	PM Peak					AM Peak					PM Peak		
Time Period	Cars	Tournhan								<b>108</b>									
	Odio	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	159	49	208	%%	Time Period 16:00-16:15	Cars 314	Trucks 45	Total 359	%	Time Period 6:00-6:15	<b>Cars</b> 276	Trucks 48	Total 324	%	Time Period 16:00-16:15	Cars 124		Total 191	%
6:00-6:15 6:15-6:30				%	<u> </u>				%	<b>3</b>				%			Trucks		%
	159	49	208	<u>%</u>	16:00-16:15	314	45	359	%	6:00-6:15	276	48	324	%	16:00-16:15	124	Trucks 67	191	%
6:15-6:30	159 160	49 58	208 218	%	16:00-16:15 16:15-16:30	314 545	45 93	359 638	%	6:00-6:15 6:15-6:30	276 239	48 47	324 286	%	16:00-16:15 16:15-16:30	124 199	<b>Trucks</b> 67 76	191 275	%
6:15-6:30 6:30-6:45	159 160 246	49 58 57	208 218 303	%	16:00-16:15 16:15-16:30 16:30-16:45	314 545 238	45 93 58	359 638 296	%	6:00-6:15 6:15-6:30 6:30-6:45	276 239 237	48 47 60	324 286 297	%	16:00-16:15 16:15-16:30 16:30-16:45	124 199 185	<b>Trucks</b> 67 76 69	191 275 254	%
6:15-6:30 6:30-6:45 6:45-7:00	159 160 246 209	49 58 57 57	208 218 303 266	<u>%</u>	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00	314 545 238 417	45 93 58 38	359 638 296 455	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	276 239 237 225	48 47 60 84	324 286 297 309	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00	124 199 185 207	7rucks 67 76 69 79	191 275 254 286	%
6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	159 160 246 209 160	49 58 57 57 67	208 218 303 266 227	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	314 545 238 417 187	45 93 58 38 43	359 638 296 455 230	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	276 239 237 225 155	48 47 60 84 56	324 286 297 309 211	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	124 199 185 207 214	67 76 69 79 41	191 275 254 286 255	%
6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	159 160 246 209 160 179	49 58 57 57 67	208 218 303 266 227 236	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	314 545 238 417 187 298	45 93 58 38 43 69	359 638 296 455 230 367	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	276 239 237 225 155 146	48 47 60 84 56 71	324 286 297 309 211 217	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	124 199 185 207 214 213	77ucks 67 76 69 79 41 39	191 275 254 286 255 252	%
6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45	159 160 246 209 160 179 241	49 58 57 57 67 57 74 63 64	208 218 303 266 227 236 315	<b>%</b>	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45	314 545 238 417 187 298 211	45 93 58 38 43 69 57	359 638 296 455 230 367 268	%	6:00-6:15 6:15-8:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45	276 239 237 225 155 146 217	48 47 60 84 56 71 80	324 286 297 309 211 217 297	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45	124 199 185 207 214 213 169	77ucks 67 76 69 79 41 39 41	191 275 254 286 255 252 210	%
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#### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT SR-58 / SR-99 SYSTEM INTERCHANGE RAMPS

SBL-SR 99 \$			Spring "	NA"						SEL-SK 99 3			raii 'SK	.33 2B C	ff-Ramp SR-5	0 EB			
		AM Peak					PM Peak					M Peak				_	PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	NA	NA	NA		16:00-16:15	NA	NA	NA		6:00-6:15	102	39	141		16:00-16:15	287	97	384	
6:15-6:30	NA	NA	NA		16:15-16:30	NA	NA NA	NA		6:15-6:30	119	44	163		16:15-16:30	239	92	331	
6:30-6:45	NA	NA	NA		16:30-16:45	NA	NA	NA		6:30-6:45	116	69	185		16:30-16:45	262	72	334	
6:45-7:00	NA	NA	NA		16:45-17:00	NA	NA	NA		6:45-7:00	184	58	242		16:45-17:00	249	87	336	
7:00-7:15	NA	NA	NA		17:00-17:15	NA	NA	NA		7:00-7:15	155	52	207		17:00-17:15	186	66	252	
7:15-7:30	NA	NA	NA		17:15-17:30	NA	NA	NA		7:15-7:30	190	50	240		17:15-17:30	242	72	314	
7:30-7:45	NΑ	NA	NA		17:30-17:45	NA	NA	NA		7:30-7:45	162	64	226		17:30-17:45	182	77	259	
7:45-8:00	NA	NA	NΑ		17:45-18:00	NA	NA	NA		7:45-8:00	212	61	273		17:45-18:00	187	70	257	
8:00-8:15	NA	NA	NA		18:00-18:15	NA	NA	NA		8:00-8:15	158	63	221		18:00-18:15	154	84	238	
8:15-8:30	NA	NA	NA		18:15-18:30	NA	NA	NA		8:15-8:30	136	67	203		18:15-18:30	123	88	211	
8:30-8:45	NA	NA	NA		18:30-18:45	NA	NA	NA		8:30-8:45	136	67	203		18:30-18:45	121	85	206	
8:45-9:00	NA	NA NA	NA_		18:45-19:00	NA_	NA.	NA .		8:45-9:00	138	73	211		18:45-19:00	111	74	185	
6:00-7:00	NA	NA	NA	NA	16:00-17:00	NA	NA	NA	NA	6:00-7:00	521	210	731	29%	16:00-17:00	1,037	348	1,385	25%
6:15-7:15	NA	NA	NA	NA	16:15-17:15	NA	NA	NA	NA	6:15-7:15	574	223	797	28%	16:15-17:15	936	317	1,253	25%
6:30-7:30	NA	NA	NA	NA	16:30-17:30	NA	NA	NA	NA	6:30-7:30	645	229	874	26%	16:30-17:30	939	297	1,236	24%
6:45-7:45	NA	NA	NA	NA	16:45-17:45	NA	NA	NA	NA	6:45-7:45	691	224	915	24%	16:45-17:45	859	302	1,161	26%
7:00-8:00	NA	NA	NA	NA	17:00-18:00	NA	NA .	NA	NA	7:00-8:00	719	227	946	24%	17:00-18:00	797	285	1,082	26%
7:15-8:15	NA	NA	NA	NA	17:15-18:15	NA	NA	NA	NA	7:15-8:15	722	238	960	25%	17:15-18:15	765	303	1,068	28%
7:30-8:30	NA	NA	NA	NA	17:30-18:30	NA	NA	NA	NA	7:30-8:30	668	255	923	28%	17:30-18:30	646	319	965	33%
7:45-8:45	NA	NA	NA	NA	17:45-18:45	NA	NA	NA	NA	7:45-8:45	642	258	900	29%	17:45-18:45	585	327	912	36%
8:00-9:00	NA	NA	NA	NA	18:00-19:00	NA	NA	NA	NA	8:00-9:00	568	270	838	32%	18:00-19:00	509	331	840	39%
										0.00-3.00		200		UL/0	10.00-13.00	300			
Total	NA	NA	NA	NA NA	Total	NA	NA NA	NA NA	NA NA	Total	1,808	707	2,515	28%	Total	2,343	964	3,307	29%
Total				NA NA						Total	1,808	707	2,515	28%		2,343			
	WB to \$		NA - Spring	NA NA		NA					1,808 WB to \$	707	2,515	28%	Total	2,343			
	WB to \$	SR 99 SB		NA NA		NA	NA			Total	1,808 WB to \$	707 SR 99 SB	2,515	28%	Total	2,343	964		
√BL-SR 58	WB to \$	SR 99 SB AM Peak	- Spring	NA "NA"	Total	NA	NA PM Peak	NA NA	NA NA	Total WBL-SR 58	1,808 WB to \$	707 SR 99 SB AM Peak	2,515 - Fall "S	28% R-99 SB	Total SR-58 WB Off	2,343 -Ramp"	964 PM Peak	3,307	29%
VBL-SR 58	WB to S	SR 99 SB AM Peak Trucks	- Spring Total	NA "NA"	Total Time Period	NA Cars	NA PM Peak Trucks	NA Total	NA NA	Total WBL-SR 58 Time Period	1,808 WB to S	707 SR 99 SB AM Peak Trucks	2,515 - Fall "S	28% R-99 SB	Total SR-58 WB Off	2,343 -Ramp"	964 PM Peak Trucks	3,307 Total	29%
Ime Period 6:00-6:15	Cars	SR 99 SB AM Peak Trucks NA	- Spring Total NA	NA "NA"	Time Period 16:00-16:15	NA Cars	NA PM Peak Trucks NA	NA Total NA	NA NA	Total WBL-SR 58 Time Period 6:00-6:15	1,808 WB to 5 Cars 165	707 SR 99 SB AM Peak Trucks	2,515 - Fall "S Total 218	28% R-99 SB	Total SR-58 WB Off Time Period 16:00-16:15	2,343 -Ramp" Cars 271	964 PM Peak Trucks	3,307 <b>Total</b> 287	29%
Ime Period 6:00-6:15 6:15-6:30 6:30-6:45	Cars NA NA	SR 99 SB AM Peak Trucks NA NA	- Spring Total NA NA	NA "NA"	Time Period 16:00-16:15 16:15-16:30	Cars NA NA	NA PM Peak Trucks NA NA	NA Total NA NA	NA NA	Total WBL-SR 58 Time Period 6:00-6:15 6:15-6:30	1,808 WB to \$ Cars 165 162	707 SR 99 SB AM Peak Trucks 33 37	2,515 - Fall "S Total 218 199	28% R-99 SB	Total SR-58 WB Off Time Period 16:00-16:15 16:15-16:30	2,343 -Ramp" Cars 271 260	964  PM Peak  Trucks  16 25	3,307 <b>Total</b> 287 285	29%
Ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	Cars NA NA NA	SR 99 SB AM Peak Trucks NA NA NA	- Spring Total NA NA NA	NA "NA"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45	Cars NA NA NA	NA PM Peak Trucks NA NA NA	NA Total NA NA NA	NA NA	Total WBL-SR 58 Time Period 6:00-6:15 6:15-6:30 6:30-6:45	1,808 WB to \$ Cars 185 162 157	707 SR 99 SB AM Peak Trucks 33 37 39	2,515 - Fall "S Total 218 199 196	28% R-99 SB	Total  SR-58 WB Off  Time Period  16:00-16:15  16:15-16:30  16:30-16:45	2,343 -Ramp" Cars 271 260 272	964  PM Peak  Trucks  16  25  15	3,307  Total  287 285 287	29%
/BL-SR 58 ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	Cars NA NA NA NA NA	SR 99 SB AM Peak Trucks NA NA NA NA	- Spring  Total  NA  NA  NA  NA	NA "NA"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00	Cars NA NA NA NA	NA PM Peak Trucks NA NA NA NA	Total NA NA NA NA	NA NA	Total WBL-SR 58 Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	1,808 WB to 5 Cars 185 162 157 145	707 SR 99 SB AM Peak Trucks 33 37 39 52	2,515 - Fall "S Total 218 199 196 197	28% R-99 SB	Total  SR-58 WB Off  Time Period  16:00-16:15  16:15-16:30  16:30-16:45  16:45-17:00	2,343 -Ramp" Cars 271 260 272 271	964  PM Peak  Trucks  16  25  15  18	3,307  Total 287 285 287 289	29%
/BL-SR 58 ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	Cars NA NA NA NA NA NA NA NA	SR 99 SB AM Peak Trucks NA NA NA NA NA	- Spring  Total  NA  NA  NA  NA  NA  NA  NA	NA "NA"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	Cars NA NA NA NA	NA PM Peak Trucks NA NA NA NA NA	NA Total NA NA NA NA NA	NA NA	Total WBL-SR 58 Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	1,808 WB to 5 Cars 185 162 157 145 138	707 SR 99 SB AM Peak Trucks 33 37 39 52 25	2,515 - Fall "S Total 218 199 196 197 163	28% R-99 SB	Total  SR-58 WB Off  Time Period  16:00-16:15  16:15-16:30  16:30-16:45  16:45-17:00  17:00-17:15	2,343 -Ramp" Cars 271 260 272 271 271	964  PM Peak  Trucks  16  25  15  18  28	3,307  Total 287 285 287 289 299	29%
/BL-SR 58 Ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45	Cars NA NA NA NA NA NA NA NA	SR 99 SB AM Peak Trucks NA NA NA NA NA NA	- Spring  Total  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	NA "NA"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	Cars NA NA NA NA NA NA NA NA NA	NA PM Peak Trucks NA NA NA NA NA NA NA	NA Total NA NA NA NA NA NA NA	NA NA	Total WBL-SR 58 Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	1,808 WB to \$ Cars 165 162 157 145 138 149	707 SR 99 SB AM Peak Trucks 33 37 39 52 25 20	2,515 - Fall "Sl Total 218 199 196 197 163 169 248	28% R-99 SB	Total SR-58 WB Off Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45	2,343 -Ramp"  Cars  271 260 272 271 271 319 321	964  PM Peak Trucks  16 25 15 18 28 11	3,307  Total 287 285 287 289 299 330	29%
/BL-SR 58 Ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	Cars  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	SR 99 SB AM Peak Trucks NA NA NA NA NA NA NA NA NA NA NA NA NA	Total NA NA NA NA NA NA NA NA NA NA NA NA NA	NA "NA"	Total  Time Period  16:00-16:15  16:15-16:30  16:30-16:45  16:45-17:00  17:00-17:15  17:15-17:30  17:30-17:45  17:45-18:00	NA Cars NA NA NA NA NA NA NA NA NA NA NA NA NA	NA PM Peak Trucks NA NA NA NA NA NA NA NA NA NA NA NA NA	Total NA NA NA NA NA NA NA NA NA NA NA NA NA	NA NA	Total WBL-SR 58 Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	1,808 WB to \$ Cars 185 162 157 145 138 149 216 247	707 SR 99 SB AM Peak Trucks 33 37 39 52 25 20 32 26	2,515 - Fall "S Total 218 199 196 197 163 169 248 273	28% R-99 SB	Total  SR-58 WB Off  Time Period  16:00-16:15  16:15-16:30  16:30-16:45  16:45-17:00  17:00-17:15  17:15-17:30  17:30-17:45  17:45-18:00	2,343 -Ramp"  Cars 271 260 272 271 271 319 321 268	964  PM Peak Trucks  16 25 15 18 28 11 26 18	3,307  Total 287 285 287 289 299 330 347 286	29%
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Ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30	Cars  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	SR 99 SB AM Peak Trucks NA NA NA NA NA NA NA NA NA NA NA NA NA	Total  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	NA "NA" % NA NA NA NA NA	Total  Time Period  16:00-16:15  16:15-16:30  16:30-16:45  16:45-17:00  17:00-17:15  17:15-17:30  17:30-17:45  17:45-18:00  18:00-18:15  16:15-17:15  16:30-18:45  18:45-19:00  16:00-17:00  16:15-17:15  16:30-17:30  16:45-17:45  17:00-18:00  17:15-18:15	NA  Cars  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	NA PM Peak Trucks NA NA NA NA NA NA NA NA NA NA NA NA NA	NA Total NA NA NA NA NA NA NA NA NA NA NA NA NA	NA % NA NA NA NA	Total WBL-SR 58 Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	1,808 WB to \$  Cars  185 162 157 145 138 149 216 247 163 161 151 147 649 602 589 648 750 775	707 SR 99 SB AM Peak Trucks 33 37 39 52 25 20 32 26 22 28 20 22 161 153 136 129 103 100	2.515 - Fall "S  Total 218 199 196 197 163 169 248 273 185 189 171 169 840 755 725 777 853 875	28% R-99 SB : % 20% 20% 19% 17% 12% 11%	Total  SR-58 WB Off  Time Period  16:00-16:15  16:15-16:30  16:30-16:45  16:45-17:00  17:00-17:15  17:15-17:30  18:00-18:15  18:15-18:30  18:30-18:45  18:45-19:00  16:00-17:00  16:15-17:15  16:30-17:30  16:45-17:45  17:00-18:00  17:15-18:15	2,343 -Ramp"  Cars 271 260 272 271 319 321 268 205 211 182 45 1,074 1,133 1,182 1,179 1,113	964  PM Peak Trucks  16 25 15 18 28 11 26 18 7 19 12 5 74 86 72 83 83 62	3,307  Total 287 285 287 289 299 330 347 286 212 230 194 50 1,148 1,160 1,205 1,265 1,262 1,175	29%

### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT SR-58 / SR-99 SYSTEM INTERCHANGE RAMPS

N をとってって 78 N	B- Spring	g "SR-99 i	NB n/o St	ockdale H	wy"					NBT-SR 99 NI	3 - Fall "	SR-99 NB	n/o Stoc	kdale Hwy	f"				
		AM Peak				F	M Peak				A	M Peak				F	M Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	494	90	584		16:00-16:15	884	90	974		6:00-6:15	976	176	1,152		16:00-16:15	835	102	937	
6:15-6:30	393	65	458		16:15-16:30	797	88	885		6:15-6:30	957	188	1,145		16:15-16:30	774	100	874	
6:30-6:45	1,077	143	1,220		16:30-16:45	870	75	945		6:30-6:45	1,020	178	1,198		16:30-16:45	843	125	968	
6:45-7:00	684	200	884		16:45-17:00	824	101	925		6:45-7:00	1,270	212	1,482		16:45-17:00	852	100	952	
7:00-7:15	910	97	1,007		17:00-17:15	905	107	1,012		7:00-7:15	989	170	1,159		17:00-17:15	833	71	904	
7:15-7:30	1,044	116	1,160		17:15-17:30	792	74	866		7:15-7:30	1,226	176	1,402		17:15-17:30	855	103	958	
7:30-7:45	1,129	102	1,231		17:30-17:45	818	104	922		7:30-7:45	1,418	147	1,565		17:30-17:45	897	103	1,000	
7:45-8:00	1,282	140	1,422		17:45-18:00	739	89	828		7:45-8:00	1,479	182	1,661		17:45-18:00	880	110	990	
8:00-8:15	869	135	1,004		18:00-18:15	733	85	818		8:00-8:15	1,057	183	1,240		18:00-18:15	742	74	816	
8:15-8:30	839	145	984		18:15-18:30	674	96	770	į	8:15-8:30	1,001	161	1,162		18:15-18:30	703	70	773	
8:30-8:45	715	98	813		18:30-18:45	598	83	681		8:30-8:45	901	156	1,057		18:30-18:45	692	69	761	
8:45-9:00	711	98	809		18:45-19:00	608	85	693		8:45-9:00	836	177	1,013		18:45-19:00	655	46	701	
6:00-7:00	2,648	498	3,146	16%	16:00-17:00	3,375	354	3,729	9%	6:00-7:00	4,223	754	4,977	15%	16:00-17:00	3,304	427	3,731	11%
6:15-7:15	3,064	505	3,569	14%	16:15-17:15	3,396	371	3,767	10%	6:15-7:15	4,236	748	4,984	15%	16:15-17:15	3,302	396	3,698	11%
6:30-7:30	3,715	556	4,271	13%	16:30-17:30	3,391	357	3,748	10%	6:30-7:30	4,505	736	5,241	14%	16:30-17:30	3,383	399	3,782	11%
6:45-7:45	3,767	515	4,282	12%	16:45-17:45	3,339	386	3,725	10%	6:45-7:45	4,903	705	5,608	13%	16:45-17:45	3,437	377	3,814	10%
7:00-8:00	4,365	455	4,820	9%	17:00-18:00	3,254	374	3,628	10%	7:00-8:00	5,112	675	5,787	12%	17:00-18:00	3,465	387	3,852	10%
7:15-8:15	4,324	493	4,817	10%	17:15-18:15	3,082	352	3,434	10%	7:15-8:15	5,180	688	5,868	12%	17:15-18:15	3,374	390	3,764	10%
7:30-8:30	4,119	522	4,641	11%	17:30-18:30	2,964	374	3,338	11%	7:30-8:30	4,955	673	5,628	12%	17:30-18:30	3,222	357	3,579	10%
7:45-8:45	3,705	518	4,223	12%	17:45-18:45	2,744	353	3,097	11%	7:45-8:45	4,438	682	5,120	13%	17:45-18:45	3,017	323	3,340	10%
8:00-9:00	3,134	476	3,610	13%	18:00-19:00	2,613	349	2,962	12%	8:00-9:00	3,795	677	4,472	15%	18:00-19:00	2,792	259	3,051	8%
Total	10,147	1,429	11,576	12%	Total	9,242	1,077	10,319	10%	Total	13,130	2,106	15,236	14%	Total	9,561	1,073	10,634	10%
SBT-SR 99 -	Spring "	SR-99 n/o	Stockdal	e Hwy"						SBT- SR 99 -	Fall "SR	-99 SB n/c	Stockda	ile Hwy"					
	•	AM Peak				F	PM Peak				A	M Peak				1	PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	Cars 308	Trucks 76	384	%	16:00-16:15	Cars 905	Trucks	1,022	%	6:00-6:15	<b>Cars</b> 219	Trucks	351	%	16:00-16:15	<b>Cars</b> 713	Trucks 151	864	%
	Cars	76 65		%	16:00-16:15 16:15-16:30	905 923	117 126	1,022 1,049	%	6:00-6:15 6:15-6:30	<b>Cars</b> 219 275	132 143	351 418	%	16:00-16:15 16:15-16:30	713 624	151 158	864 782	%
6:00-6:15 6:15-6:30 6:30-6:45	308 266 364	76 65 96	384 331 460	%	16:00-16:15 16:15-16:30 16:30-16:45	905 923 917	117 126 114	1,022 1,049 1,031	%	6:00-6:15 6:15-6:30 6:30-6:45	219 275 320	132 143 117	351 418 437	%	16:00-16:15 16:15-16:30 16:30-16:45	713 624 630	151 158 166	864 782 796	%
6:00-6:15 6:15-6:30	<b>Cars</b> 308 266	76 65	384 331	<b>%</b>	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00	905 923	117 126 114 137	1,022 1,049 1,031 1,082	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	219 275 320 367	132 143 117 132	351 418 437 499	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00	713 624	151 158 166 135	864 782	%
6:00-6:15 6:15-6:30 6:30-6:45	308 266 364	76 65 96	384 331 460	% _	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	905 923 917 945 1,044	117 126 114	1,022 1,049 1,031 1,082 1,176	<b>%</b>	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	219 275 320 367 395	132 143 117 132 138	351 418 437 499 533	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	713 624 630 675 801	151 158 166 135 115	864 782 796	%
6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	308 266 364 364 363 421	76 65 96 91 68 97	384 331 460 455 431 518	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	905 923 917 945 1,044 926	117 126 114 137 132 142	1,022 1,049 1,031 1,082 1,176 1,068	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	219 275 320 367 395 430	132 143 117 132 138 152	351 418 437 499 533 582	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	713 624 630 675 801 729	151 158 166 135 115 122	864 782 796 810 916 851	%
6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	308 266 364 364 363	76 65 96 91 68	384 331 460 455 431	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45	905 923 917 945 1,044 926 743	117 126 114 137 132	1,022 1,049 1,031 1,082 1,176	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45	219 275 320 367 395 430 502	132 143 117 132 138	351 418 437 499 533 582 664	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	713 624 630 675 801 729 601	151 158 166 135 115 122 127	864 782 796 810 916	%
6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	308 266 364 364 363 421	76 65 96 91 68 97	384 331 460 455 431 518 555 463	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00	905 923 917 945 1,044 926	117 126 114 137 132 142 127 85	1,022 1,049 1,031 1,082 1,176 1,068 870 606	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	219 275 320 367 395 430 502 504	132 143 117 132 138 152 162 149	351 418 437 499 533 582 664 653	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00	713 624 630 675 801 729 601 561	151 158 166 135 115 122 127 149	864 782 796 810 916 851	%
6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45	266 364 364 363 421 453	76 65 96 91 68 97 102	384 331 460 455 431 518 555	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45	905 923 917 945 1,044 926 743	117 126 114 137 132 142 127	1,022 1,049 1,031 1,082 1,176 1,068 870	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15	Cars 219 275 320 367 395 430 502 504 458	132 143 117 132 138 152 162	351 418 437 499 533 582 664	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45	713 624 630 675 801 729 601	151 158 166 135 115 122 127	864 782 796 810 916 851 728	%
6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	266 364 364 363 421 453 383	76 65 96 91 68 97 102 80	384 331 460 455 431 518 555 463	%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00	905 923 917 945 1,044 926 743 521	117 126 114 137 132 142 127 85	1,022 1,049 1,031 1,082 1,176 1,068 870 606 790 681	%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	219 275 320 367 395 430 502 504 458 469	132 143 117 132 138 152 162 149	351 418 437 499 533 582 664 653	**	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00	713 624 630 675 801 729 601 561	151 158 166 135 115 122 127 149	864 782 796 810 916 851 728 710	%
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6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	Cars  308 266 364 364 363 421 453 383 573 528 589 453 1,302 1,357 1,512 1,601 1,620 1,830 1,937	76 65 96 91 68 97 102 80 98 128 123 84 328 320 352 358 347 377 408	384 331 460 455 431 518 555 463 671 656 712 537 1,630 1,677 1,864 1,959 1,967 2,207 2,345	20% 19% 19% 18% 18% 17%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:30-17:30 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	905 923 917 945 1,044 926 743 521 690 574 636 516 3,690 3,829 3,632 3,658 3,234 2,880 2,528	Trucks  117 126 114 137 132 142 127 85 100 107 93 83 494 509 525 538 486 454 419	1,022 1,049 1,031 1,082 1,176 1,068 870 606 790 681 729 599 4,184 4,338 4,357 4,196 3,720 3,334 2,947	12% 12% 12% 13% 13% 14%	6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	Cars  219 275 320 367 395 430 502 504 458 469 407 414 1.181 1.512 1.694 1.831 1.894 1.933	Trucks  132 143 117 132 138 152 162 149 185 167 165 132 524 530 539 584 601 648 663	351 418 437 499 533 582 664 653 643 636 572 546 1,705 1,887 2,051 2,278 2,432 2,542 2,596	31% 28% 26% 26% 25% 25% 26%	16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	Cars 713 624 630 675 801 729 601 561 538 502 472 355 2,642 2,730 2,835 2,806 2,692 2,429 2,202	Trucks  151 158 166 135 115 122 127 149 133 122 118 89 610 574 538 499 513 531	864 782 796 810 916 851 728 710 671 624 590 444 3,252 3,304 3,373 3,305 3,205 2,960 2,733	19% 17% 16% 15% 16% 18%

1 0C 7C -1 C	NB - Spri	ng "SR-5	8 WB w/o	SR-99"						WET - SR 58 V			/B w/o SF	₹-99" 	*				
	A	M Peak				P	M Peak				A	M Peak					M Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	177	19	196		16:00-16:15	468	15	483		6:00-6:15	73	11	84		16:00-16:15	294	3	297	
6:15-6:30	195	20	215		16:15-16:30	425	15	440		6:15-6:30	69	11	80		16:15-16:30	233	17	250	
6:30-6:45	252	29	281		16:30-16:45	441	32	473		6;30-6;45	107	17	124		16:30-16:45	285	7	292	
6:45-7:00	297	19	316		16:45-17:00	417	22	439		6:45-7:00	131	26	157		16:45-17:00	290	7	297	
7:00-7:15	270	32	302		17:00-17:15	488	21	509		7:00-7:15	110	17	127		17:00-17:15	288	11	299	
7:15-7:30	297	25	322		17:15-17:30	459	25	484		7:15-7:30	166	35	201		17:15-17:30	297	9	306	
7:30-7:45	218	19	237		17:30-17:45	441	8	449		7:30-7:45	<sup>^</sup> 200	22	222		17:30-17:45	225	2	227	
7:45-8:00	449	39	488		17:45-18:00	426	10	436		7:45-8:00	259	14	273		17:45-18:00	254	6	260	
8:00-8:15	324	28	352		18:00-18:15	387	20	407		8:00-8:15	241	14	255		18:00-18:15	194	9	203	
8:15-8:30	341	27	368		18:15-18:30	307	7	314		8:15-8:30	183	20	203		18:15-18:30	165	2	167	
8:30-8:45	309	38	347		18:30-18:45	291	7	298	ı	8:30-8:45	182	15	197		18:30-18:45	122	6	128	
8:45-9:00	312	24	336		18:45-19:00	298	26	324	I	8:45-9:00	182	8	190		18:45-19:00	129	6	135	
6:00-7:00	921	87	1,008	9%	16:00-17:00	1,751	84	1,835	5%	6:00-7:00	380	65	445	15%	16:00-17:00	1,102	34	1,136	3%
6:15-7:15	1,014	100	1,114	9%	16:15-17:15	1,771	90	1,861	5%	6:15-7:15	417	71	488	15%	16:15-17:15	1,096	42	1,138	4%
6:30-7:30	1,116	105	1,221	9%	16:30-17:30	1,805	100	1,905	5%	6:30-7:30	514	95	609	16%	16:30-17:30	1,160	34	1,194	3%
6:45-7:45	1,082	95	1,177	8%	16:45-17:45	1,805	76	1,881	4%	6:45-7:45	607	100	707	14%	16:45-17:45	1,100	29	1,129	3%
7:00-8:00	1,234	115	1,349	9%	17:00-18:00	1,814	64	1,878	3%	7:00-8:00	735	88	823	11%	17:00-18:00	1,064	28	1,092	3%
7:15-8:15	1,288	111	1,399	8%	17:15-18:15	1,713	63	1,776	4%	7:15-8:15	866	85	951	9%	17:15-18:15	970	26	996	3%
7:30-8:30	1,332	113	1,445	8%	17:30-18:30	1,581	45	1,606	3%	7:30-8:30	883	70	953	7%	17:30-18:30	838	19	857	2%
7:45-8:45	1,423	132	1,555	8%	17:45-18:45	1,411	44	1,455	3%	7:45-8:45	865	63	928	7%	17:45-18:45	735	23	758	3%
8:00-9:00	1,286	117	1,403	8%	18:00-19:00	1,283	60	1,343	4%	8:00-9:00	788	57	845	7%	18:00-19:00	610	23	633	4%
Total	3,441																		
	3,441	319	3,760	8%	Total	4,848	208	5,056	4%	Total	1,903	210	2,113	10%	Total	2,776	85	2,861	3%
					Total	4,848	208	5,056	4%	Total					Total	2,776	85	2,861	3%
8T-SR 58 E	B - Sprin				Total		208 M Peak	5,056	4%		B - Fall "				Total		85 PM Peak	2,861	3%
	B - Sprin	g "SR-58			Total Time Period			5,056 Total	4% %		B - Fall "	SR-58 EB			Total  Time Period			2,861 Total	3% %
®T-SR 58 E	B - Sprin	g "SR-58 M Peak	EB w/o S	R-99"		P	M Peak			EBT -SR 58 E	B - Fall "	SR-58 EB M Peak	w/o SR-	99"		F	PM Peak		
ST-SR 58 E	B - Sprin A Cars	g "SR-58 M Peak Trucks	EB w/o S	R-99"	Time Period	P	M Peak Trucks	Total		EBT -SR 58 E	B - Fall " A Cars	SR-58 EB M Peak Trucks	w/o SR-S	99"	Time Period	F Cars	PM Peak Trucks	Total	
Time Period 6:00-6:15	B - Sprin A Cars 80	g "SR-58 M Peak Trucks	EB w/o S Total 89	R-99"	Time Period 16:00-16:15	Cars 220	M Peak Trucks	Total		EBT -SR 58 E Time Period 6:00-6:15	B - Fall " A Cars	SR-58 EB M Peak Trucks	w/o SR-S	99"	Time Period 16:00-16:15	<b>Cars</b> 170	PM Peak Trucks 20	Total	
Time Period 6:00-6:15 6:15-6:30	B - Sprin A Cars 80 90	g "SR-58 M Peak Trucks 9 6	Total 89 96	R-99"	Time Period 16:00-16:15 16:15-16:30	220 216	M Peak Trucks 8 6	<b>Totai</b> 228 222		Time Period 6:00-6:15 6:15-6:30	<b>B - Fall " Cars</b> 57 79	SR-58 EB M Peak Trucks 11 6	w/o SR-S Total 68 85	99"	Time Period 16:00-16:15 16:15-16:30	Cars 170 163	PM Peak Trucks 20 9	<b>Total</b> 190 172	
Time Period 6:00-6:15 6:15-6:30 6:30-6:45	B - Spring Cars 80 90 150	g "SR-58 M Peak Trucks 9 6 8	Total 89 96 158	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45	220 216 240	M Peak Trucks 8 6 9	Total 228 222 249		Time Period 6:00-6:15 6:15-6:30 6:30-6:45	<b>B - Fall "</b> Cars  57  79  103	SR-58 EB M Peak Trucks 11 6 10	w/o SR-5  Total  68  85  113	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45	Cars 170 163 185	PM Peak Trucks 20 9	<b>Total</b> 190 172 194	
Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	80 90 150 185	g "SR-58 M Peak Trucks 9 6 8	Total 89 96 158 196	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00	220 216 240 184	M Peak Trucks 8 6 9	Total 228 222 249 196		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	<b>B - Fail " Cars</b> 57  79  103  173	SR-58 EB M Peak Trucks 11 6 10	Wo SR-5  Total  68  85  113  181	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00	170 163 185 195	PM Peak Trucks 20 9 9	Total 190 172 194 210	
ET-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	B - Spring A Cars 80 90 150 185 181	g "SR-58 M Peak Trucks 9 6 8 11 9	FB w/o S Total 89 96 158 196 190	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	220 216 240 184 244	W Peak Trucks 8 6 9 12	Total 228 222 249 196 253		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	<b>B - Fall " Cars</b> 57  79  103  173  159	SR-58 EB M Peak Trucks 11 6 10 8 5	Wo SR-5  Total  68  85  113  181  164	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	170 163 185 195 185	PM Peak  Trucks  20  9  9  15	Total 190 172 194 210 196	
ET-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	80 90 150 185 181 182	g "SR-58 M Peak Trucks 9 6 8 11	FB w/o S  Total  89  96  158  196  190  189	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	220 216 240 184 244 242	# Peak Trucks  8 6 9 12 9 10	Total 228 222 249 196 253 252		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	57 79 103 173 159 219	SR-58 EB M Peak Trucks 11 6 10 8 5	Total 68 85 113 181 164 229	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	170 163 185 195 185 236	PM Peak Trucks 20 9 9 15 11 7	Total 190 172 194 210 196 243	
BT-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45	B - Spring Cars 80 90 150 185 181 182 210	g "SR-58 M Peak Trucks 9 6 8 11 9 7	FB w/o S  Total  89  96  158  196  190  189  222	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45	220 216 240 184 244 242 257	# Peak Trucks  8 6 9 12 9 10 7	Total 228 222 249 196 253 252 264		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45	<b>B - Fail " Cars</b> 57 79 103 173 159 219 223	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12	Total 68 85 113 181 164 229 235	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45	170 163 185 195 185 236 215	PM Peak Trucks 20 9 15 11 7 8	Total 190 172 194 210 196 243 223	
©T-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	B - Spring Cars 80 90 150 185 181 182 210 252	g "SR-58 MM Peak Trucks 9 6 8 11 9 7 12	Total 89 96 158 196 190 189 222 269	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00	220 216 240 184 244 242 257 251	M Peak Trucks 8 6 9 12 9 10 7 8	Total 228 222 249 196 253 252 264 259		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	B - Fall " A Cars 57 79 103 173 159 219 223 230	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12	Total 68 85 113 181 164 229 235 242	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00	170 163 185 195 185 236 215	PM Peak Trucks 20 9 9 15 11 7 8	Total 190 172 194 210 196 243 223 188	
BT-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15	B - Spring A  Cars  80 90 150 185 181 182 210 252 172	g "SR-58 M Peak Trucks 9 6 8 11 9 7 12 17	Total 89 96 158 196 190 189 222 269 189	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15	220 216 240 184 244 242 257 251 200	M Peak Trucks 8 6 9 12 9 10 7 8 10	Total 228 222 249 196 253 252 264 259 210		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15	E - Fall "A  Care  57  79  103  173  159  219  223  230  184	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 19	Total 68 85 113 181 164 229 235 242 203	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15	Cars 170 163 185 195 185 236 215 176 171	PM Peak Trucks 20 9 9 15 11 7 8 12 14	Total 190 172 194 210 196 243 223 188 185	
©T-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45	B - Sprin, A Cars 80 90 150 185 181 182 210 252 172 133 115	g "SR-58 M Peak Trucks 9 6 8 11 9 7 12 17 10 6	Total  89 96 158 196 190 189 222 269 189 143 121	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30	220 216 240 184 244 242 257 251 200	M Peak Trucks 8 6 9 12 9 10 7 8 10 5	Total 228 222 249 196 253 252 264 259 210 174		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30	E - Fall "A Cars 57 79 103 173 159 219 223 230 184 138	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 19 11	Total 68 85 113 181 164 229 235 242 203 149	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30	Cars 170 163 185 195 185 236 215 176 171 140	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3	Total 190 172 194 210 196 243 223 188 185 143	
BT-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30	B - Sprin, A Cars 80 90 150 185 181 182 210 252 172 133	g "SR-58 M Peak Trucks 9 6 8 11 9 7 12 17 10	Total  89 96 158 196 190 189 222 269 189 143	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45	220 216 240 184 244 242 257 251 200 169 193	M Peak Trucks 8 6 9 12 9 10 7 8 10 5	Total 228 222 249 196 253 252 264 259 210 174 203		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45	<b>B - Fail "</b> Cars  57  79  103  173  159  219  223  230  184  138  112	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 19 11 19	Total 68 85 113 181 164 229 235 242 203 149 131	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45	Cars 170 163 185 195 185 236 215 176 171 140 174	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3 3	Total 190 172 194 210 196 243 223 188 185 143	
©T-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	B - Sprin, A Cars 80 90 150 185 181 182 210 252 172 133 115 154	g "SR-58 M Peak Trucks 9 6 8 11 9 7 12 17 10 6 11	Total  89  96  158  196  190  189  222  269  189  143  121  165	R-99" %	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	220 216 240 184 244 242 257 251 200 169 193	M Peak Trucks 8 6 9 12 9 10 7 8 10 5 10 5	Total 228 222 249 196 253 252 264 259 210 174 203 153	%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00	B - Fall " A Cars 57 79 103 173 159 219 223 230 184 138 112 107	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 19 11 19 9	W/o SR-5  Total  68  85  113  181  164  229  235  242  203  149  131  116	99" %	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	Cars 170 163 185 195 185 236 215 176 171 140 174	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3 3 2	Total 190 172 194 210 196 243 223 188 185 143 177 186	%
©T-SR 58 E  Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	B - Sprin A Cars 80 90 150 185 181 182 210 252 172 133 115 154 505	g "SR-58 M Peak Trucks 9 6 8 11 9 7 12 17 10 6 11 34	Total  89  96  158  196  190  189  222  269  189  143  121  165  539	R-99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00	220 216 240 184 244 242 257 251 200 169 193 148	M Peak Trucks 8 6 9 12 9 10 7 8 10 5 10 5 35	Total 228 222 249 196 253 252 264 259 210 174 203 153 895	%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	B - Fall " A Cars 57 79 103 173 159 219 223 230 184 138 112 107	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 19 11 19 9	Total 68 85 113 181 164 229 235 242 203 149 131 116 447	99"	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00	Cars 170 163 185 195 185 236 215 176 171 140 174 184 713	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3 3 2 53	Total 190 172 194 210 196 243 223 188 185 143 177 186	7%
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©T-SR 58 E  Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	B - Sprin: A Cars 80 90 150 185 181 182 210 252 172 133 115 154 505 606 698 758	g "SR-58 M Peak Trucks 9 6 8 11 9 7 12 17 10 6 11 34 34 35 39	Total 89 96 158 196 190 189 222 269 189 143 121 165 539 640 733 797	6% 5% 5%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	220 216 240 184 244 242 257 251 200 169 193 148 860 884 910	M Peak Trucks 8 6 9 12 9 10 7 8 10 5 10 5 35 36 40	Total  228  222  249  196  253  252  264  259  210  174  203  153  895  920  950	4% 4% 4%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 6:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	B - Fail " A Cars 57 79 103 173 159 219 223 230 184 138 112 107 412 514 654	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 19 11 19 9 35 29 33	Total 68 85 113 181 164 229 235 242 203 149 131 116 447 543 687	8% 5% 5%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	Cars  170 163 185 195 185 236 215 176 171 140 174 184 713 728 801	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3 3 2 53 44 42	Total 190 172 194 210 196 243 223 188 185 143 177 186 766 772 843	% 7% 6% 5%
### T-SR 58 E  Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	B - Sprin: A Cars 80 90 150 185 181 182 210 252 172 133 115 154 505 606 698 758 825	g "SR-58 IM Peak Trucks 9 6 8 11 9 7 12 17 10 6 11 34 34 35 39 45	Total 89 96 158 196 190 189 222 269 189 143 121 165 539 640 733 797 870	8-99" % % 5% 5% 5%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:30-17:30 16:45-17:45 17:00-18:00	220 216 240 184 244 242 257 251 200 169 193 148 860 884 910	M Peak Trucks 8 6 9 12 9 10 7 8 10 5 10 5 35 36 40 38	Total 228 222 249 196 253 252 264 259 210 174 203 153 895 920 950 965	4% 4% 4% 4%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	B - Fail " A Cars 57 79 103 173 159 219 223 230 184 138 112 107 412 514 654 774	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 19 11 19 9 35 29 33 35	Total 68 85 113 181 164 229 235 242 203 149 131 116 447 543 687 809	8% 5% 5% 4%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45	Cars  170 163 185 195 185 236 215 176 171 140 174 184 713 728 801 831	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3 3 2 53 44 42 41	Total 190 172 194 210 196 243 223 188 185 143 177 186 766 772 843 872	7% 6% 5% 5%
### T-SR 58 E  Time Period  6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	B - Sprin: A Cars 80 90 150 185 181 182 210 252 172 133 115 505 606 698 758 825 816	g "SR-58 MM Peak Trucks 9 6 8 11 9 7 12 17 10 6 11 34 35 39 45 53	Total 89 96 158 196 190 189 222 269 189 143 121 165 539 640 733 797 870 869	6% 5% 5% 5% 5%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	220 216 240 184 244 242 257 251 200 169 193 148 860 884 910 927 994	M Peak Trucks 8 6 9 12 9 10 7 8 10 5 10 5 35 36 40 38 34	Total  228  222  249  196  253  252  264  259  210  174  203  153  895  920  965  1,028	4% 4% 4% 4% 3%	EBT -SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	B - Fail " A Cars 57 79 103 173 159 219 223 230 184 138 112 107 412 514 654 774 831	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 19 11 19 9 35 29 33 35 39	Total 68 85 113 181 164 229 235 242 203 149 131 116 447 543 687 809 870	8% 5% 5% 4% 4%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00	Cars  170 163 185 195 185 236 215 176 171 140 174 184 713 728 801 831 812	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3 3 2 53 44 42 41 38	Total 190 172 194 210 196 243 223 188 185 143 177 186 766 772 843 872 850	7% 6% 5% 5% 4%
### T-SR 58 E  Time Period  6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	B - Sprin: A Cars 80 90 150 185 181 182 210 252 172 133 115 505 606 698 758 825 816 767	g "SR-58 MM Peak Trucks 9 6 8 11 9 7 12 17 10 6 11 34 35 39 45 53 56	Total 89 96 158 196 190 189 222 269 189 143 121 165 539 640 733 797 870 869 823	6% 5% 5% 5% 5% 6% 7%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:45-17:45 17:00-18:00 17:15-18:15	220 216 240 184 244 242 257 251 200 169 193 148 860 884 910 927 994 950 877	M Peak Trucks 8 6 9 12 9 10 7 8 10 5 10 5 35 36 40 38 34 35 30	Total  228  222  249  196  253  252  264  259  210  174  203  153  895  920  965  1,028  985  907	4% 4% 4% 4% 3% 4% 3%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	B - Fail " A Cars 57 79 103 173 159 219 223 230 184 138 112 107 412 514 654 774 831 856 775	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 12 19 11 19 9 35 29 33 35 39 53	Total 68 85 113 181 164 229 235 242 203 149 131 116 447 543 687 809 870 909 829	8% 5% 5% 4% 4% 6% 7%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	Cars 170 163 185 195 185 236 215 176 171 140 174 184 713 728 801 831 812 798	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3 2 53 44 42 41 38 41	Total 190 172 194 210 196 243 223 188 185 143 177 186 766 772 843 872 850 839	7% 6% 5% 5% 4% 5%
BT-SR 58 E Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	B - Sprin: A Cars 80 90 150 185 181 182 210 252 172 133 115 505 606 698 758 825 816	g "SR-58 MM Peak Trucks 9 6 8 11 9 7 12 17 10 6 11 34 35 39 45 53	Total 89 96 158 196 190 189 222 269 189 143 121 165 539 640 733 797 870 869	6% 5% 5% 5% 5%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	220 216 240 184 244 242 257 251 200 169 193 148 860 884 910 927 994	M Peak Trucks 8 6 9 12 9 10 7 8 10 5 10 5 35 36 40 38 34 35	Total  228  222  249  196  253  252  264  259  210  174  203  153  895  920  965  1,028  985	4% 4% 4% 4% 3% 4%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	B - Fail " A Cars 57 79 103 173 159 219 223 230 184 138 112 107 412 514 654 774 831 856	SR-58 EB M Peak Trucks 11 6 10 8 5 10 12 12 12 19 11 19 9 35 29 33 35 39 53	Total 68 85 113 181 164 229 235 242 203 149 131 116 447 543 687 809 870 909	8% 5% 5% 4% 4% 6%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	Cars 170 163 185 195 185 236 215 176 171 140 174 184 713 728 801 831 812 798 702	PM Peak Trucks 20 9 9 15 11 7 8 12 14 3 3 2 53 44 42 41 38 41 37	Total 190 172 194 210 196 243 223 188 185 143 177 186 766 772 843 872 850 839 739	7% 6% 5% 4% 5% 5%

#### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT SR-58 / SR-99 SYSTEM INTERCHANGE RAMPS

		99 SB - S				_	MA Dani.		Ī			M Peak				5	M Peak		
	A	M Peak				P	M Peak				-					-			
nme Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	NA	NA	NΑ		16:00-16:15	NA	NA	NA		6:00-6:15	20	1	21		16:00-16:15	54	4	58	
6:15-6:30	NA	NA	NA		16:15-16:30	NA	NA	NΑ		6:15-6:30	25	3	28		16:15-16:30	47	3	50	
6:30-6:45	NΑ	NA	N/A		16:30-16:45	NA	NA	NA		6:30-6:45	21	2	23		16:30-16:45	62	4	66	
6:45-7:00	NA	NΑ	NA		16:45-17:00	NA	NA	NA		6:45-7:00	30	0	30		16:45-17:00	63	8	71	
7:00-7:15	NA	NA	NA		17:00-17:15	NA	NA	NA		7:00-7:15	, 27	4	31		17:00-17:15	63	5	68	
7:15-7:30	NA	NA	NA		17:15-17:30	NA	NA	NA		7:15-7:30	41	3	44		17:15-17:30	65	1	66	
7:30-7:45	NA	NA	NA		17:30-17:45	NA	NA	NA		7:30-7:45	45	2	47		17:30-17:45	71	1	72	
7:45-8:00	NA .	NA	NA		17:45-18:00	NA	NA	NA		7:45-8:00	44	3	47		17:45-18:00	70	4	74	
8:00-8:15	NA	NA	NA		18:00-18:15	NA	NA	NA		8:00-8:15	29	3	32		18:00-18:15	65	1	66	
8:15-8:30	NA	NΑ	NA		18:15-18:30	NA	NA	NA		8:15-8:30	30	8	38		18:15-18:30	60	2	62	
8:30-8:45	NA	NΑ	NA		18:30-18:45	NA	NA	NA		8:30-8:45	30	6	36		18:30-18:45	60	0	60	
8:45-9:00	NA	NA	NA		18:45-19:00	NA	NA	NA		8:45-9:00	27	7	34		18:45-19:00	37	1	38	
6:00-7:00	NA	NA	NA	NA	16:00-17:00	NA	.NA	NA	NA	6:00-7:00	96	6	102	6%	16:00-17:00	226	19	245	8%
6:15-7:15	NA	NA	NA	NA	16:15-17:15	NA	NA	NA	NΑ	6:15-7:15	103	9	112	8%	16:15-17:15	235	20	255	8%
6:30-7:30	NA	NA	NA	NA.	16:30-17:30	NA	NA	NA	NA	6:30-7:30	119	9	128	7%	16:30-17:30	253	18	271	7%
6:45-7:45	NA	NA	NA	NA	16:45-17:45	NA	NA	NA	NA	6:45-7:45	143	9	152	6%	16:45-17:45	262	15	277	5%
7:00-8:00	NA	NA.	NA	NA	17:00-18:00	NA	NA	NA	NA	7;00-8:00	157	12	169	7%	17:00-18:00	269	11	280	4%
7:15-8:15	NA	NA	NA	NA	17:15-18:15	NA	NA	NA	NA	7:15-8:15	159	11	170	6%	17:15-18:15	271	7	278	3%
7:30-8:30	NA	NA	NA	NA	17:30-18:30	NA	NA	NA	NA	7:30-8:30	148	16	164	10%	17:30-18:30	266	8	274	3%
7:45-8:45	NA	NA	NA	NA	17:45-18:45	NΑ	NA	NA	NA	7:45-8:45	133	20	153	13%	17:45-18:45	255	7	262	3%
8:00-9:00	NA	NA	NA	NA	18:00-19:00	NA	NA	NA	NA	8:00-9:00	116	24	140	17%	18:00-19:00	222	4	226	2%
Total	NA NA	NA NA	NA	NA NA	Total	NA NA	NA	NA	NA NA	Total	369	42	411	10%	Total	717	34	751	5%

Source: Parsons/HNTB analysis of data from KOA, Draft Report for SR-58 Origin and Destination Truck Study, January 26, 2009.

### Notes:

AM Peak Period: 6:00-9:00 AM PM Peak Period: 4:00-7:00 PM

#### Legend:

NBR-SR 99 NB to SR 58 EB - Spring "SR-99 NB off-ramp connector to SR-58 EB"

NBR - Equivalent movement assuming t/C is an intersection.

SR 99 NB to SR 58 EB - Ramp

Spring - Data set. Note: Data set includes Spring and Fall data.

"SR-99 NB off-ramp connector to SR-58 EB" - Location label in data set. Note: Location not consistently used in Spring and Fall data sets.

"NA" - Not Available

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### **SR 99 MAINLINE**

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### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT SR-99 MAINLINE

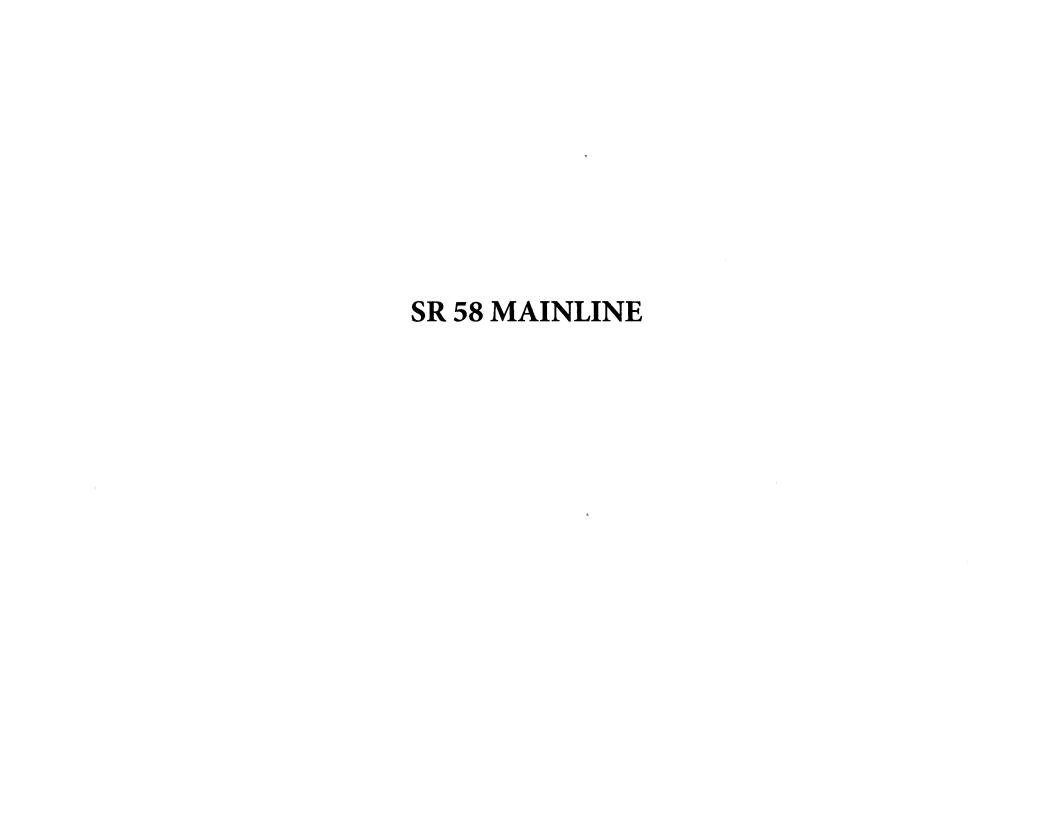
SR 99 NB No		SR 58 - S <sub>i</sub> AM Peak	oring "N	3T+WBR	"	P	M Peak			SR 99 NB N		SR 58 - Fa M Peak	ell "NBT+	·WBR" 			PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Totai	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	653	139	792		16:00-16:15	1,198	135	1,333		6:00-6:15	1,252	224	1,476		16:00-16:15	959	169	1,128	
6:15-6:30	553	123	676		16:15-16:30	1,342	181	1,523		6:15-6:30	1,196	235	1,431		16:15-16:30	973	176	1,149	
6:30-6:45	1,323	200	1,523		16:30-16:45	1,108	133	1,241		6:30-6:45	1,257	238	1,495		16:30-16:45	1,028	194	1,222	
6:45-7:00	893	257	1,150		16:45-17:00	1,241	139	1,380		6:45-7:00	1,495	296	1,791		16:45-17:00	1,059	179	1,238	
7:00-7:15	1,070	164	1,234		17:00-17:15	1,092	150	1,242		7:00-7:15	1,144	226	1,370		17:00-17:15	1,047	112	1,159	
7:15-7:30	1,223	173	1,396		17:15-17:30	1,090	143	1,233		7:15-7:30	1,372	247	1,619		17:15-17:30	1,068	142	1,210	
7:30-7:45	1,370	176	1,546		17:30-17:45	1,029	161	1,190		7:30-7:45	1,635	227	1,862		17:30-17:45	1,066	144	1,210	
7:45-8:00	1,557	203	1,760		17:45-18:00	904	131	1,035		7:45-8:00	1,724	252	1,976		17:45-18:00	1,048	157	1,205	
8:00-8:15	1,040	199	1,239		18:00-18:15	911	128	1,039		8:00-8:15	1,208	270	1,478		18:00-18:15	889	118	1,007	
8:15-8:30	1,026	204	1,230		18:15-18:30	819	150	969		8:15-8:30	1,172	235	1,407		18:15-18:30	837	130	967	
8:30-8:45	870	174	1,044		18:30-18:45	753	127	880		8:30-8:45	1,023	231	1,254		18:30-18:45	824	108	932	
8:45-9:00	868	171	1,039		18:45-19:00	731	139	870		8:45-9:00	972	252	1,224		18:45-19:00	773	90	863	
6:00-7:00	3,422	719	4,141	17%	16:00-17:00	4,889	588	5,477	11%	6:00-7:00	5,200	993	6,193	16%	16:00-17:00	4,019	718	4,737	15%
6:15-7:15	3,839	744	4,583	16%	16:15-17:15	4,783	603	5,386	11%	6:15-7:15	5,092	995	6,087	16%	16:15-17:15	4,107	661	4,768	14%
6:30-7:30	4,509	794	5,303	15%	16:30-17:30	4,531	565	5,096	11%	6:30-7:30	5,268	1,007	6,275	16%	16:30-17:30	4,202	627	4,829	13%
6:45-7:45	4,556	770	5,326	14%	16:45-17:45	4,452	593	5,045	12%	6:45-7:45	5,646	996	6,642	15%	16:45-17:45	4,240	577	4,817	12%
7:00-8:00	5,220	716	5,936	12%	17:00-18:00	4,115	585	4,700	12%	7:00-8:00	5,875	952	6,827	14%	17:00-18:00	4,229	555	4,784	12%
7:15-8:15	5,190	751	5,941	13%	17:15-18:15	3,934	563	4,497	13%	7:15-8:15	5,939	998	6,935	14%	17:15-18:15	4,071	561	4,632	12%
7:30-8:30	4,993	782	5,775	14%	17:30-18:30	3,663	570	4,233	13%	7:30-8:30	5,739	984	6,723	15%	17:30-18:30	3,840	549	4,389	13%
7:45-8:45	4,493	780	5,273	15%	17:45-18:45	3,387	536	3,923	14%	7:45-8:45	5,127	988	6,115	16%	17:45-18:45	3,598	513	4,111	12%
8:00-9:00	3,804	748	4,552	16%	18:00-19:00	3,214	544	3,758	14%	8:00-9:00	4,375	988	5,363	18%	18:00-19:00	3,323	446	3,769	12%
Total	12,446	2,183	14,629	15%	Total	12,218	1,717	13,935	12%	Total	15,450	2,933	18,383	16%	Total	11,571	1,719	13,290	13%
SR 99 NB S	outh of	SR 58 - S	pring "N	8T+N8R	241					SR 99 NB S	outh of	SR 58 - F	all "NBT	+NBR"					
		AM Peak					M Peak					AM Peak					PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	610	119	729		16:00-16:15	1,159	109	1,268		6:00-6:15	1,196	214	1,410		16:00-16:15	1,080	132	1,212	
6:15-6:30	540	90	630		16:15-16:30	1,065	115	1,180		6:15-6:30	1,238	225	1,463		16:15-16:30	1,020	122	1,142	
6:30-6:45	1,279	167	1,446		16:30-16:45	1,120	106	1,226		6:30-6:45	1,327	206	1,533		16:30-16:45	1,081	145	1,226	
6:45-7:00	929	230	1,159		16:45-17:00	1,055	123	1,178		6:45-7:00	1,639	255	1,894		16:45-17:00	1,068	125	1,193	
7:00-7:15	1,149	120	1,289		17:00-17:15	1,160	135	1,295		7:00-7:15	1,308	209	1,517		17:00-17:15	1,063	98	1,161	
7:15-7:30	1,359	141	1,500		17:15-17:30	1,028	91	1,119		7:15-7:30	1,454	227	1,681		17:15-17:30	1,103	125	1,228	
7:30-7:45	1,477	135	1,612		17:30-17:45	1,054	126	1,180		7:30-7:45	1,600	183	1,783		17:30-17:45	1,166	128	1,294	
7:45-8:00	1,653	178	1,831		17:45-18:00	991	106	1,097		7:45-8:00	1,654	212	1,866		17:45-18:00	1,145	129	1,274	
8:00-8:15	1,167	173	1,340		18:00-18:15	955	106	1,061		8:00-8:15	1,160	203	1,363		18:00-18:15	944	93	1,037	
		176	1,284		18:15-18:30	877	112	989		8:15-8:30	1,121	178	1,299		18:15-18:30	913	87	1,000	
8:15-8:30	1,108											181	1,262		18:30-18:45	840	79	919	
8:15-8:30 8:30-8:45	1,108 910	123	1,033		18:30-18:45	802	105	907		8:30-8:45	1,081	101	1,202		10.50-10.40	040	13	313	
			1,033 1,040		18:30-18:45 18:45-19:00	802 798	105 102	907 900		8:30-8:45 8:45-9:00	1,081 1,058	224	1,282		18:45-19:00	839	56	895	
8:30-8:45	910	123		15%	8				9%		.,			14%					119
8:30-8:45 8:45-9:00	910 917	123 123	1,040	15% 13%	18:45-19:00	798	102	900	9% 10%	8:45-9:00	1,058	224	1,282	14% 14%	18:45-19:00	839	56	895	
8:30-8:45 8:45-9:00 6:00-7:00	910 917 3,358	123 123 606	1,040 3,964		18:45-19:00 16:00-17:00	798 4,399	102 453	900 4,852		8:45-9:00 6:00-7:00	1,058 5,400	224 900	1,282 6,300		18:45-19:00 16:00-17:00	839 4,249	56 524	895 4,773	10%
8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	910 917 3,358 3,897	123 123 606 607	1,040 3,964 4,504	13%	18:45-19:00 16:00-17:00 16:15-17:15	798 4,399 4,400	102 453 479	900 4,852 4,879	10%	8:45-9:00 6:00-7:00 6:15-7:15	1,058 5,400 5,512	900 895	1,282 6,300 6,407	14%	18:45-19:00 16:00-17:00 16:15-17:15	839 4,249 4,232	56 524 490	895 4,773 4,722	10% 10%
8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	910 917 3,358 3,897 4,716	123 123 606 607 658	1,040 3,964 4,504 5,374	13% 12%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	798 4,399 4,400 4,363	102 453 479 455	900 4,852 4,879 4,818	10% 9%	8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	1,058 5,400 5,512 5,728	224 900 895 897	1,282 6,300 6,407 6,625	14% 14%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	839 4,249 4,232 4,315	56 524 490 493	895 4,773 4,722 4,808	10° 10° 10°
8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	910 917 3,358 3,897 4,716 4,914	123 123 606 607 658 626	1,040 3,964 4,504 5,374 5,540	13% 12% 11%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45	798 4,399 4,400 4,363 4,297	453 479 455 475	900 4,852 4,879 4,818 4,772	10% 9% 10%	8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	1,058 5,400 5,512 5,728 6,001	900 895 897 874	1,282 6,300 6,407 6,625 6,875	14% 14% 13%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45	839 4,249 4,232 4,315 4,400	56 524 490 493 476	4,773 4,722 4,808 4,876	10% 10% 10% 10%
8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:06-8:00	910 917 3,358 3,897 4,716 4,914 5,638	123 123 606 607 658 626 574	1,040 3,964 4,504 5,374 5,540 6,212	13% 12% 11% 9%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00	798 4,399 4,400 4,363 4,297 4,233	102 453 479 455 475 458	900 4,852 4,879 4,818 4,772 4,691	10% 9% 10% 10%	8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	1,058 5,400 5,512 5,728 6,001 6,016	224 900 895 897 874 831	1,282 6,300 6,407 6,625 6,875 6,847	14% 14% 13% 12%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00	839 4,249 4,232 4,315 4,400 4,477	56 524 490 493 476 480	895 4,773 4,722 4,808 4,876 4,957	10% 10% 10% 10% 10%
8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	910 917 3,358 3,897 4,716 4,914 5,638 5,656	123 123 606 607 658 626 574 627	1,040 3,964 4,504 5,374 5,540 6,212 6,283	13% 12% 11% 9% 10%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	798 4,399 4,400 4,363 4,297 4,233 4,028	102 453 479 455 475 458 429	900 4,852 4,879 4,818 4,772 4,691 4,457	10% 9% 10% 10%	8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	1,058 5,400 5,512 5,728 6,001 6,016 5,868	224 900 895 897 874 831 825	1,282 6,300 6,407 6,625 6,875 6,847 6,693	14% 14% 13% 12% 12%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	839 4,249 4,232 4,315 4,400 4,477 4,358	56 524 490 493 476 480 475	4,773 4,722 4,808 4,876 4,957 4,833	119 109 109 109 109 109 9% 9%
8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	910 917 3,358 3,897 4,716 4,914 5,638 5,656 5,405	123 123 606 607 658 626 574 627 862	1,040 3,964 4,504 5,374 5,540 6,212 6,283 6,067	13% 12% 11% 9% 10% 11%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	798 4,399 4,400 4,363 4,297 4,233 4,028 3,877	102 453 479 455 475 458 429 450	900 4,852 4,879 4,818 4,772 4,691 4,457 4,327	10% 9% 10% 10% 10%	8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	1,058 5,400 5,512 5,728 6,001 6,016 5,868 5,535	224 900 895 897 874 831 825 776	1,282 6,300 6,407 6,625 6,875 6,847 6,693 6,311	14% 14% 13% 12% 12%	18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	4,249 4,232 4,315 4,400 4,477 4,358 4,168	56 524 490 493 476 480 475 437	4,773 4,722 4,808 4,876 4,957 4,833 4,605	10% 10% 10% 10% 10% 9%

Source: Parsons/HNTB analysis of data from KOA, Draft Report for SR-58 Origin and Destination Truck Study, January 26, 2009.

Note: NA or #VALUE! Indicates data not available.

### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT SR-99 MAINLINE

SR 99 SB No	orth of Si	R 58 - Sprii AM Peak	ng "SBT+	SBL."			PM Peak			SR 99 SB No		R 58 - Fa M Peak	<b>II "</b> SBT+	SBL"			PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	NA	NA	NA		18:00-16:15	1,192	214	1,406		6:00-6:15	321	171	492		16:00-16:15	1,000	248	1,248	
6:15-6:30	NA	NA	NA		16:15-16:30	1,162	218	1,380		6:15-6:30	394	187	581		16:15-16:30	863	250	1,113	
6:30-6:45	NA	NA	NA		16:30-16:45	1,179	186	1,365		6:30-6:45	436	186	622		16:30-16:45	892	238	1,130	
6:45-7:00	NA	NA	NA		16:45-17:00	1,194	224	1,418		6:45-7:00	551	190	741		16:45-17:00	924	222	1,146	
7:00-7:15	NA	NA	NA		17:00-17:15	1,230	198	1,428		7:00-7:15	550	190	740		17:00-17:15	987	181	1,168	
7:15-7:30	NA	NA	NA		17:15-17:30	1,168	214	1,382		7:15-7:30	620	202	822		17:15-17:30	971	194	1,165	
7:30-7:45	NA	NA	NA		17:30-17:45	925	204	1,129		7:30-7:45	664	226	890		17:30-17:45	783	204	987	
7:45-8:00	NA	NA	NA		17:45-18:00	708	155	863		7:45-8:00	716	210	926		17:45-18:00	748	219	967	
8:00-8:15	NA	NA	NA		18:00-18:15	844	184	1,028		8:00-8:15	616	248	864		18:00-18:15	692	217	909	
8:15-8:30	NA	NA	NA		18:15-18:30	697	195	892		8:15-8:30	605	234	839		18:15-18:30	625	210	835	
8:30-8:45	NA	NA	NA		18:30-18:45	757	178	935	ı	8:30-8:45	543	232	775		18:30-18:45	593	203	796	
8:45-9:00	NA	NA	NA		18:45-19:00	627	157	784		8:45-9:00	552	205	757		18:45-19:00	466	163	629	
6:00-7:00	NA	NA	NA	NA	16:00-17:00	4,727	842	5,569	15%	6:00-7:00	1,702	734	2,436	30%	16:00-17:00	3,679	958	4,637	21%
6:15-7:15	NA	NA	NA	NA	16:15-17:15	4,765	826	5,591	15%	6:15-7:15	1,931	753	2,684	28%	16:15-17:15	3,666	891	4,557	20%
6:30-7:30	NA	NA	NA	NA	16:30-17:30	4,771	822	5,593	15%	6:30-7:30	2,157	768	2,925	26%	16:30-17:30	3,774	835	4,609	18%
8:45-7:45	NA	NA	NA	NA	16:45-17:45	4,517	840	5,357	16%	6:45-7:45	2,385	808	3,193	25%	16:45-17:45	3,665	801	4,466	18%
7:00-8:00	NA	NA	NA	NA	17:00-18:00	4,031	771	4,802	16%	7:00-8:00	2,550	828	3,378	25%	17:00-18:00	3,489	798	4,287	19%
7:15-8:15	NA	NA	NA	NA	17:15-18:15	3,645	757	4,402	17%	7:15-8:15	2,616	886	3,502	25%	17:15-18:15	3,194	834	4,028	21%
7:30-8:30	NA	NA	NA	NA	17:30-18:30	3,174	738	3,912	19%	7:30-8:30	2,601	918	3,519	26%	17:30-18:30	2,848	850	3,698	23%
7:45-8:45	NA	NA	NA	NA.	17:45-18:45	3,006	712	3,718	19%	7:45-8:45	2,480	924	3,404	27%	17:45-18:45	2,658	849	3,507	24%
8:00-9:00	NA	NA	NA	NA	18:00-19:00	2,925	714	3,639	20%	8:00-9:00	2,316	919	3,235	28%	18:00-19:00	2,376	793	3,169	25%
Total	NA NA	NA	NA	NA	Total	11,683	2,327	14,010	17%	Totai	6,568	2,481	9,049	27%	Total	9,544	2,549	12,093	21%
SR 99 SB Sc	outh of S	R 58 - Spri	ing "SBT-	EBR+WE	L"			****		SR 99 SB S	outh of	SR 58 - F	all "SBT-	EBR+W	BL"				
		AM Peak					PM Peak					M Peak					PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	NA	NA	NA		16:00-16:15	NA	NA	NA		6:00-6:15	424	166	590		16:00-18:15	1,038	171	1,209	
6:15-6:30	NA	NA	NA		16:15-16:30	NA	NA	NA	İ	6:15-6:30	462	183	645		16:15-16:30	931	186	1,117	
6:30-6:45	NA	NA	NA		16:30-16:45	NA	NA	NA		6:30-6:45	498	158	656		16:30-16:45	964	185	1,149	
6:45-7:00	NA	NA	NA		16:45-17:00	NA	NA	NA								4		4 470	
7:00-7:15	NA	NA	NA		17:00-17:15				1	6:45-7:00	542	184	726		16:45-17:00	1,009	161	1,170	
7:15-7:30	NA	NA				NA	NA	NA		6:45-7:00 7:00-7:15	542 580	184 167	726 727		16:45-17:00 17:00-17:15	1,009	161 148	1,170	
7 00 7 45		INA	NA		17:15-17:30	NA NA	NA NA	NA NA		B33						.,		•	
7:30-7:45	NA	NA NA	NA NA							7:00-7:15	580	167	727		17:00-17:15	1,135	148	1,283	
7:30-7:45 7:45-8:00	NA NA				17:15-17:30	NA	NA	NA		7:00-7:15 7:15-7:30	580 620	167 175	727 795		17:00-17:15 17:15-17:30	1,135 1,113	148 134	1,283 1,247	
		NA	NA		17:15-17:30 17:30-17:45	NA NA	NA NA	NA <del>N</del> A		7:00-7:15 7:15-7:30 7:30-7:45	580 620 763	167 175 196	727 795 959		17:00-17:15 17:15-17:30 17:30-17:45	1,135 1,113 993	148 134 154	1,283 1,247 1,147	
7:45-8:00	NA	NA NA	NA NA		17:15-17:30 17:30-17:45 17:45-18:00	NA NA NA	NA NA NA	NA <del>N</del> A NA		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	580 620 763 795	167 175 196 178	727 795 959 973		17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00	1,135 1,113 993 899	148 134 154 171	1,283 1,247 1,147 1,070	
7:45-8:00 8:00-8:15	NA NA	NA NA NA	NA NA <del>N</del> A		17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15	NA NA NA	NA NA NA	NA <del>N</del> A NA NA		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15	580 620 763 795 650	167 175 196 178 210	727 795 959 973 860		17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15	1,135 1,113 993 899 808	148 134 154 171 141	1,283 1,247 1,147 1,070 949	
7:45-8:00 8:00-8:15 8:15-8:30	NA NA NA	NA NA NA	NA NA NA NA		17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30	NA NA NA NA	NA NA NA NA	NA <del>N</del> A NA NA NA		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30	580 620 763 795 650 660	167 175 196 178 210 203	727 795 959 973 860 863		17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30	1,135 1,113 993 899 808 773	148 134 154 171 141 143	1,283 1,247 1,147 1,070 949 916	
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45	NA NA NA	NA NA NA NA	NA NA NA NA	NA T	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45	NA NA NA NA NA	NA NA NA NA NA	NA NA NA NA NA	y a <b>NA</b>	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45	580 620 763 795 650 660 588	167 175 196 178 210 203	727 795 959 973 860 863 779	26%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45	1,135 1,113 993 899 808 773 714	148 134 154 171 141 143	1,283 1,247 1,147 1,070 949 916 844	15%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00	NA NA NA NA	NA NA NA NA NA	NA NA NA NA NA	NA NA	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA	NA NA	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00	580 620 763 795 650 660 588 588	167 175 196 178 210 203 191 161	727 795 959 973 860 863 779 749	26% 25%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	1,135 1,113 993 899 808 773 714 437	148 134 154 171 141 143 130	1,283 1,247 1,147 1,070 949 916 844 532	15% 14%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	NA NA NA NA	NA NA NA NA NA	NA NA NA NA NA		17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA NA		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	580 620 763 795 650 660 588 588	167 175 196 178 210 203 191 161	727 795 959 973 860 863 779 749 2,617		17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00	1,135 1,113 993 899 808 773 714 437	148 134 154 171 141 143 130 95	1,283 1,247 1,147 1,070 949 916 844 532	
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA NA	NA	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15	NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA	NA	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	580 620 763 795 650 660 588 588 1,926 2,062	167 175 196 178 210 203 191 161 691	727 795 959 973 860 863 779 749 2,617 2,754	25%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15	1,135 1,113 993 899 808 773 714 437 3,942 4,039	148 134 154 171 141 143 130 95 703 680	1,283 1,247 1,147 1,070 949 916 844 532 4,645 4,719	14%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	NA NA NA NA NA NA NA	NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA	NA NA	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15	NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA NA	NA NA	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	580 620 763 795 650 660 588 588 1,926 2,062	167 175 196 178 210 203 191 161 691 692 684	727 795 959 973 860 863 779 749 2.617 2.754	25% 24%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 18:30-17:30	1,135 1,113 993 899 808 773 714 437 3,942 4,039 4,221	148 134 154 171 141 143 130 95 703 680 628	1,283 1,247 1,147 1,070 949 916 844 532 4,645 4,719 4,849	14% 13%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45	NA NA NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:15-7:15 6:30-7:30 6:45-7:45	580 620 763 795 650 660 588 588 1,926 2,062 2,220 2,485	167 175 196 178 210 203 191 161 691 692 684 722	727 795 959 973 860 863 779 749 2.617 2,754 2,904 3,207	25% 24% 23%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 18:30-17:30 16:45-17:45	1,135 1,113 993 899 808 773 714 437 3,942 4,039 4,221 4,250	148 134 154 171 141 143 130 95 703 680 628 597	1,283 1,247 1,147 1,070 949 916 844 532 4,645 4,719 4,849 4,847	14% 13% 12%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA	NA NA NA	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	580 620 763 795 650 660 588 588 1,926 2,062 2,220 2,485 2,738	167 175 196 178 210 203 191 161 691 692 684 722 716	727 795 959 973 860 863 779 749 2.617 2.754 2.904 3.207 3.454	25% 24% 23% 21%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 18:30-17:30 16:45-17:45 17:00-18:00	1,135 1,113 993 889 808 773 714 437 3,942 4,039 4,221 4,250 4,140	148 134 154 171 141 143 130 95 703 680 628 597 607	1,283 1,247 1,147 1,070 949 916 844 532 4,645 4,719 4,849 4,847 4,747	14% 13% 12% 13%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:05-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	580 620 763 795 650 660 588 588 2,062 2,220 2,485 2,738 2,828	167 175 196 178 210 203 191 161 891 692 684 722 716 759	727 795 959 973 860 863 779 749 2.617 2.754 2.904 3.207 3.454 3.587	25% 24% 23% 21% 21%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 18:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	1,135 1,113 993 889 808 773 714 437 3,942 4,039 4,221 4,250 4,140 3,813	148 134 154 171 141 143 130 95 703 680 628 597 607 600	1,283 1,247 1,147 1,070 949 916 844 532 4,645 4,719 4,849 4,847 4,747 4,413	14% 13% 12% 13% 14%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:10-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	580 620 763 795 650 660 588 588 2,062 2,220 2,485 2,738 2,828 2,868	167 175 196 178 210 203 191 161 381 692 684 722 716 759	727 795 959 973 860 863 779 749 2.617 2.754 2.904 3.207 3.454 3.587 3.655	25% 24% 23% 21% 21% 22%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 18:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	1,135 1,113 993 899 808 773 714 437 3,942 4,039 4,221 4,250 4,140 3,813 3,473	148 134 154 171 141 143 130 95 703 680 628 597 607 600 609	1,283 1,247 1,147 1,070 949 916 844 532 4,645 4,719 4,849 4,847 4,747 4,413 4,082	14% 13% 12% 13% 14%



### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT SR-58 MAINLINE

SR 58 EB Ea	3.0.0.	AM Peak	a	Po. 1			PM Peak			SR 58 EB E		M Peak	1 1200m c 1 7 1				PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	NA	NA.	NA.		16:00-16:15	NA	NA	NA.		6:00-6:15	379	88	467	- '-	16:00-16:15	702	147	849	
8:15-6:30	NA.	NA.	NA.		16:15-16:30	NA.	NA.	NA.		6:15-6:30	479	67	566		16:15-16:30	648	123	771	
6;30-6:45	NA.	NA	NA		16:30-16:45	NA.	NA.	NA		6:30-6:45	526	107	633		16:30-16:45	685	101	766	
6:45-7:00	NA.	NA.	NA.		16:45-17:00	NA	NA.	NA		6:45-7:00	726	109	835		16:45-17:00	660	127	787	
7:00-7:15	NA	NA	NA.		17:00-17:15	NA.	NA.	NA.		7:00-7:15	633	96	729		17:00-17:15	601	104	705	
7:15-7:30	NA	NA	NA		17:15-17:30	NA	NA	NA.		7:15-7:30	637	111	748		17:15-17:30	726	101	827	
7:30-7:45	NA	NA.	NΑ		17:30-17:45	NA	NA	NA.		7;30-7;45	567	112	679		17:30-17:45	666	110	776	
7:45-8:00	NA	NA	NA		17:45-18:00	NA	NA	NA		7:45-8:00	617	103	720		17:45-18:00	628	101	729	
8:00-8:15	NA	NA	NA		18:00-18:15	NA	NA	NA		8:00-8:15	445	102	547		18:00-18:15	527	117	644	
8:15-8:30	NA	NA	NA		18:15-18:30	NA	NA	NA		8:15-8:30	394	95	489		18:15-18:30	473	108	581	
8:30-8:45	NA	NA	NA.		18:30-18:45	NΑ	NA	NA		8:30-8:45	428	111	539		18:30-18:45	443	98	541	
8:45-9:00	NA	NA	NA		18:45-19:00	NA	NA	NA		8:45-9:00	467	129	596		18:45-19:00	479	86	565	
6:00-7:00	NA	NA NA	NA NA	NA NA	16:00-17:00	NA	NA	NA NA	NA	6:00-7:00	2,110	391	2,501	16%	16:00-17:00	2,695	498	3,193	16
6:15-7:15	NA	NA	NA	NA	16:15-17:15	NA	NA	NA	NA	6:15-7:15	2.364	399	2,763	14%	16:15-17:15	2,594	455	3,049	15
6:30-7:30	NA	NA.	NA.	NA.	16:30-17:30	NA.	NA.	NA.	NA.	6:30-7:30	2,522	423	2,945	14%	16:30-17:30	2,672	433	3,105	14
6:45-7:45	NA.	NA.	NA.	NA.	16:45-17:45	NA.	NA.	NA.	NA.	6:45-7:45	2,563	428	2,991	14%	16:45-17:45	2,653	442	3,095	14
7:00-8:00	NA .	NA NA	NA.	NA	17:00-18:00	NA.	NA NA	NA.	NA	7:00-8:00	2,454	422	2,876	15%	17:00-18:00	2,621	416	3,037	1
7:15-8:15	NA	NA	NA	NA	17:15-18:15	NA	NA	NA	NA	7:15-8:15	2,266	428	2,694	16%	17:15-18:15	2,547	429	2,976	14
7:30-8:30	NA.	NA.	NA	NA.	17:30-18:30	NA.	NA.	NA.	NA.	7:30-8:30	2,023	412	2,435	17%	17:30-18:30	2,294	436	2,730	16
7:45-8:45	NA.	NA.	NA	NA	17:45-18:45	NA.	NA	NA	NA.	7:45-8:45	1.884	411	2,295	18%	17:45-18:45	2,071	424	2,495	17
8:00-9:00	NA	NA.	NA	NA	18:00-19:00	NA	NA	NA .	NA	8:00-9:00	1.734	437	2,171	20%	18:00-19:00	1,922	409	2,331	. 1
Total	NA	NA NA	NA	NA NA	Total	NA NA	NA NA	NA NA	NA NA	Total	6,298	1,250	7,548	17%	Total	7,238	1,323	8,561	1!
SR 58 WB E					22					SR 58 WB E						1,4.00	1,020	0,001	
		AM Peak					PM Peak					AM Peak		11.00			PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	9
6:00-6:15	NA	NA	NA	·	16:00-16:15	NA	NA	NA		6:00-6:15	534	92	626		16:00-16:15	689	86	775	
6:15-6:30	NA	NA	NA		16:15-16:30	NA	NA	NA		6:15-6:30	470	95	565		16:15-16:30	692	118	810	
6:30-6:45	NA	NA	NA		16:30-16:45	NA	NA	NA		6:30-6:45	501	116	617		16:30-16:45	742	91	833	
6:45-7:00	NA	NA	NA		16:45-17:00	NA	NA	NA		6:45-7:00	501	162	663		16:45-17:00	768	104	872	
7:00-7:15	NA	NA	NA		17:00-17:15	NA	NA	NA		7:00-7:15	403	98	501		17:00-17:15	773	80	853	
7:15-7:30	NA	NA	NA		17:15-17:30	NA	NA	NA		7:15-7:30	461	126	587		17:15-17:30	829	59	888	
7:30-7:45	NA	NA	NA		17:30-17:45	NA	NA	NA		7:30-7:45	633	134	767		17:30-17:45	715	69	784	
	BI A	NA	NA		17:45-18:00	NA	NA	NA		7:45-8:00	751	110	861		17:45-18:00	690	71	761	
7:45-8:00	NA				18:00-18:15							422	678		18:00-18:15	546	60	606	
	NA NA	NA	NA		10.00-10.13	NA	NA	NA		8:00-8:15	555	123	010						
7:45-8:00		NA NA	NA NA		18:15-18:30	NA NA	NA NA	NA NA		8:00–8:15 8:15–8:30	555 515	123	637		18:15-18:30	510	81	591	
7:45-8:00 8:00-8:15	NA									933					18:15-18:30 18:30-18:45	510 436	81 57	591 493	
7:45-8:00 8:00-8:15 8:15-8:30	NA NA	, NA	NA		18:15-18:30	NA	NA	NA		8:15-8:30	515	122	637						
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45	NA NA NA	NA NA	NA NA		18:15-18:30 18:30-18:45	NA NA	NA NA	NA NA	NA NA	8:15-8:30 8:30-8:45	515 455	122 110	637 565	19%	18:30-18:45	436	57	493	1
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00	NA NA NA	NA NA NA	NA NA NA	NA NA	18:15-18:30 18:30-18:45 18:45-19:00	NA NA NA	NA NA NA	NA NA NA	NA NA	8:15-8:30 8:30-8:45 8:45-9:00	515 455 465	122 110 105	637 565 570	19% 20%	18:30-18:45 18:45-19:00	436 292	57 55	493 347	1:
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	NA NA NA NA	NA NA NA	NA NA NA		18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00	NA NA NA NA	NA NA NA	NA NA NA	2.00	8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	515 455 465 2,006	122 110 105 465	637 565 570 2,471	1 1 1 1 1 1 1	18:30-18:45 18:45-19:00 16:00-17:00	436 292 2,891	57 55 399	493 347 3,290	
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	NA NA NA NA	NA NA NA NA	NA NA NA NA	NA	18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15	NA NA NA NA	NA NA NA NA	NA NA NA NA	NA	8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	515 455 465 2,006 1,875	122 110 105 465 471	637 565 570 2,471 2,346	20%	18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15	436 292 2,891 2,975	57 55 399 393	493 347 3,290 3,368	1
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	NA NA NA NA NA NA	NA NA NA NA NA	NA NA NA NA NA NA	NA NA	18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	NA NA NA NA NA	NA NA NA NA NA	NA NA NA NA NA	NA NA	8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	515 455 465 2,006 1,875 1,666	122 110 105 465 471 502	637 565 570 2,471 2,346 2,368	20% 21%	18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	436 292 2,891 2,975 3,112	57 55 399 393 334	493 347 3,290 3,368 3,446	1
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	NA NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA	18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45	NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA	8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	515 455 465 2,006 1,875 1,666 1,998	122 110 105 465 471 502 520	637 565 570 2,471 2,346 2,368 2,518	20% 21% 21%	18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45	436 292 2,891 2,975 3,112 3,085	57 55 399 393 334 312	493 347 3,290 3,368 3,446 3,397	1 1 9
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	NA NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA	18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00	NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA NA NA	NA NA NA NA	8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	515 455 465 2,006 1,875 1,666 1,998 2,248	122 110 105 465 471 502 520 468	637 565 570 2,471 2,346 2,368 2,518 2,716	20% 21% 21% 17%	18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00	436 292 2,891 2,975 3,112 3,085 3,007	57 55 399 393 334 312 279	493 347 3,290 3,368 3,446 3,397 3,286 3,039	1 1 9
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	NA NA NA NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA	NA NA NA NA NA NA NA	NA NA NA NA	18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	NA NA NA NA NA NA NA	NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA	NA NA NA NA	8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	515 455 465 2,006 1,875 1,666 1,998 2,248 2,400	122 110 105 465 471 502 520 468 493	637 565 570 2,471 2,346 2,368 2,518 2,716 2,893	20% 21% 21% 17% 17%	18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	436 292 2,891 2,975 3,112 3,085 3,007 2,780	57 55 399 393 334 312 279 259	493 347 3,290 3,368 3,446 3,397 3,286 3,039 2,742	1
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	NA NA NA NA NA NA NA NA NA NA NA NA NA N	NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA	18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	NA NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA NA NA	NA NA NA NA NA	8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	515 455 465 2,006 1,875 1,666 1,998 2,248 2,400 2,454	122 110 105 465 471 502 520 468 493 469	637 565 570 2,471 2,346 2,368 2,518 2,716 2,893 2,943	20% 21% 21% 17% 17%	18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	436 292 2,891 2,975 3,112 3,085 3,007 2,780 2,461	57 55 399 393 334 312 279 259 281	493 347 3,290 3,368 3,446 3,397 3,286 3,039	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

Source: Parsons/HNTB analysis of data from KOA, Draft Report for SR-58 Origin and Destination Truck Study, January 26, 2009.

Note: NA or #VALUE! Indicates data not available.

### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT SR-58 MAINLINE

SR 58 EB W	est of S	R 99 - Sprin	g "EBT+E	:BR"						SR 58 EB W	st of S	R 99 - Fal	I"EBT+E	BR"					
		AM Peak	-	1			PM Peak		1		,	AM Peak					PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	NA	NA	NA		16:00-16:15	NA	NA	NA		6:00-6:15	77	12	89		16:00-16:15	224	24	248	
6:15-6:30	NA	NA	NA		16:15-16:30	NA	NA	NA		6:15-6:30	104	9	113		16:15-16:30	210	12	222	
6:30-6:45	NA	NA	NA		16:30-16:45	NA	NA	NA		6:30-6:45	124	12	136		16:30-16:45	247	13	260	
6:45-7:00	NA	NA	NA		16:45-17:00	NA	NA	NA		6:45-7:00	203	8	211		16:45-17:00	258	23	281	
7:00-7:15	NA	NA	NA		17:00-17:15	NA	NA	NA		7:00-7:15	186	9	195		17:00-17:15	248	16	264	
7:15-7:30	NA	NA	NA		17:15-17:30	NA	NA	NA		7:15-7:30	260	13	273		17:15-17:30	301	8	309	
7:30-7:45	NA	NA	NA		17:30-17:45	NA	NA	NA		7:30-7:45	268	14	282		17:30-17:45	286	9	295	
7:45-8:00	NA	NA	NA		17:45-18:00	NA	NA	NA		7:45-8:00	274	15	289		17:45-18:00	246	16	262	
8:00-8:15	NA	NA	NA		18:00-18:15	NA	NA	NA		8:00-8:15	213	22	235		18:00-18:15	236	15	251	
8:15-8:30	NA	NA	NA		18:15-18:30	NA	NA	NA		8:15-6:30	168	19	187		18:15-18:30	200	5	205	
8:30-8:45	NA	NA	NA		18:30-18:45	NA	NA	NA		8:30-8:45	142	25	167		18:30-18:45	234	3	237	
8:45-9:00	NA	NA	NA		18:45-19:00	NA	NA	NA		8:45-9:00	134	16	150		18:45-19:00	221	3	224	
6:00-7:00	NA	NA	NA	NA	16:00-17:00	NA	NA	NA	NA	6:00-7:00	508	41	549	7%	16:00-17:00	939	72	1,011	7%
6:15-7:15	NA	NA	NA	NA	16:15-17:15	NA	NA	NA	NA	6:15-7:15	617	38	655	6%	16:15-17:15	963	64	1,027	6%
6:30-7:30	NA	NA	NA	NA	16:30-17:30	NA	NA	NA	NA	6:30-7:30	773	42	815	5%	16:30-17:30	1,054	60	1,114	5%
6:45-7:45	NA	NA	NA	NA	16:45-17:45	NA	NA	NA	NA	6:45-7:45	917	44	961	5%	16:45-17:45	1,093	56	1,149	5%
7:00-8:00	NA	NA	NA	NA	17:00-18:00	NA	NA	NA	NA	7:00-8:00	988	51	1,039	5%	17:00-18:00	1,081	49	1,130	4%
7:15-8:15	NA	NA	NA	NA	17:15-18:15	NA	NA	NA	NA	7:15-8:15	1,015	64	1,079	6%	17:15-18:15	1,069	48	1,117	4%
7:30-8:30	NA	NA	NA	NA	17:30-18:30	NA	NA	NA	NA	7:30-8:30	923	70	993	7%	17:30-18:30	968	45	1,013	4%
7:45-8:45	NA	NA	NA	NA	17:45-18:45	NA	NA	NA	NA	7:45-8:45	797	81	878	9%	17:45-18:45	916	39	955	4%
8:00-9:00	NA	NA	NA	NA	18:00-19:00	NA	NA	NA	NA	8:00-9:00	657	82	739	11%	18:00-19:00	891	26	917	3%
Total	NA	NA	NA	NA	Total	NA	NA	NA	NA	Total	2,153	174	2,327	7%	Total	2,911	147	3,058	5%
SR 58 WB W	Vest of S	SR 99 - Spri	ng "WBT"							SR 58 WB W	est of	SR 99 - Fa	II "WBT	•					
		AM Peak					PM Peak					AM Peak					PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	177	19	196		16:00-16:15	468	15	483		6:00-6:15	73	11	84		16:00-16:15	294	3	297	
6:15-6:30	195	20	215		16:15-16:30	425	15	440		6:15-6:30	69	11	80		16:15-16:30	233	17	250	
6:30-6:45	252	29	281		16:30-16:45	441	32	473		6:30-6:45	107	17	124		16:30-16:45	285	7	292	
6:45-7:00	297	19	316		16:45-17:00	417													
7:00-7:15	270	32					22	439		6:45-7:00	131	26	157		16:45-17:00	290	7	297	
7:15-7:30			302		17:00-17:15	488	22 21	439 509		6:45-7:00 7:00-7:15	131 110	26 17	157 127		16:45-17:00 17:00-17:15	290 288	7 11		
	297	25	322		17:15-17:30	488 459		509 484		7:00-7:15 7:15-7:30								297	
7:30-7:45	218	19	322 237		17:15-17:30 17:30-17:45	459 441	21 25 8	509 484 449		7:00-7:15 7:15-7:30 7:30-7:45	110 188 200	17 35 22	127 201 222		17:00-17:15 17:15-17:30 17:30-17:45	288 297 225	11 9 2	297 299	
7:45-8:00	218 449	19 39	322 237 488		17:15-17:30 17:30-17:45 17:45-18:00	459 441 426	21 25 8 10	509 484 449 436		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00	110 188 200 259	17 35 22 14	127 201 222 273		17:00-17:15 17:15-17:30	288 297 225 254	11 9 2 6	297 299 306	
7:45-8:00 8:00-8:15	218 449 324	19 39 28	322 237 488 352		17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15	459 441 426 387	21 25 8 10 20	509 484 449 436 407		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15	110 168 200 259 241	17 35 22 14 14	127 201 222 273 255		17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15	288 297 225	11 9 2	297 299 306 227	
7:45-8:00 8:00-8:15 8:15-8:30	218 449 324 341	19 39 28 27	322 237 488 352 368		17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30	459 441 426 387 307	21 25 8 10 20 7	509 484 449 436 407 314		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30	110 188 200 259 241 183	17 35 22 14 14 20	127 201 222 273 255 203		17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30	288 297 225 254 194 165	11 9 2 6 9	297 299 306 227 260 203 167	
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45	218 449 324 341 309	19 39 28 27 38	322 237 488 352 368 347		17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 16:30-18:45	459 441 426 387 307 291	21 25 8 10 20 7	509 484 449 436 407 314 298		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45	110 168 200 259 241 183 182	17 35 22 14 14 20	127 201 222 273 255 203 197		17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45	288 297 225 254 194 165 122	11 9 2 6 9 2 6	297 299 306 227 260 203	
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00	218 449 324 341 309 312	19 39 28 27 38 24	322 237 488 352 368 347 336	· 1000 11 400 11 1500 11	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 16:30-18:45 18:45-19:00	459 441 426 387 307 291 298	21 25 8 10 20 7 7	509 484 449 436 407 314 298 324		7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00	110 188 200 259 241 183 182	17 35 22 14 14 20 15	127 201 222 273 255 203 197 190	N Acons de laine de lac	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	288 297 225 254 194 165 122	11 9 2 6 9 2 6	297 299 306 227 260 203 167	
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	218 449 324 341 309 312	19 39 28 27 38 24	322 237 488 352 368 347 336	9%	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 16:30-18:45 18:45-19:00	459 441 426 387 307 291 298	21 25 8 10 20 7 7 26	509 484 449 436 407 314 298 324	5%	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	110 168 200 259 241 183 182 182	17 35 22 14 14 20 15 8	127 201 222 273 255 203 197 190	15%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45	288 297 225 254 194 165 122	11 9 2 6 9 2 6	297 299 306 227 260 203 167 128	3%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	218 449 324 341 309 312 921 1,014	19 39 28 27 38 24 67	322 237 488 352 368 347 336 1,008	9%	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15	459 441 426 387 307 291 298 1,751	21 25 8 10 20 7 7 26	509 484 449 436 407 314 298 324 1,835	5%	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	110 186 200 259 241 183 182 182 380 417	17 35 22 14 14 20 15 8	127 201 222 273 255 203 197 190 445 488	15%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15	288 297 225 254 194 165 122	11 9 2 6 9 2 6 6 6	297 299 306 227 260 203 167 128 135	3% 4%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	218 449 324 341 309 312 921 1,014 1,116	19 39 28 27 38 24 87 100	322 237 488 352 368 347 336 1,008 1,114 1,221	9% 9%	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	459 441 426 387 307 291 298 1,751 1,771 1,805	21 25 8 10 20 7 7 26 84 90	509 484 449 436 407 314 298 324 1,835 1,861 1,905	5% 5%	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	110 168 200 259 241 183 182 182 380 417 514	17 35 22 14 14 20 15 8 65 71	127 201 222 273 255 203 197 190 445 488 609	15% 16%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	288 297 225 254 194 165 122 129 1,102 1,096 1,160	11 9 2 6 9 2 6 6 6 34 42 34	297 299 306 227 260 203 167 128 135 1,136 1,138	4% 3%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	218 449 324 341 309 312 921 1,014 1,116 1,082	19 39 28 27 38 24 87 100 105 95	322 237 488 352 368 347 336 1,008 1,114 1,221 1,177	9% 9% 8%	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45	459 441 426 387 307 291 298 1,751 1,771 1,805	21 25 8 10 20 7 7 26 84 90 100	509 484 449 436 407 314 298 324 1,835 1,861 1,905	5% 5% <b>4</b> %	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	110 166 200 259 241 183 182 182 380 417 514 607	17 35 22 14 14 20 15 8 65 71 95	127 201 222 273 255 203 197 190 445 488 609 707	15% 16% 14%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45	288 297 225 254 194 165 122 129 1,102 1,096 1,160	11 9 2 6 9 2 6 6 6 34 42 34	297 299 306 227 260 203 167 128 135 1,136 1,138 1,194 1,129	4% 3% 3%
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7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	218 449 324 341 309 312 921 1,014 1,116 1,082 1,234 1,288	19 39 28 27 38 24 87 100 105 95 115	322 237 488 352 368 347 336 1,008 1,114 1,221 1,177 1,349 1,399	9% 9% 8% 9% 8%	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-16:00 17:15-18:15	459 441 426 387 307 291 298 1,751 1,771 1,805 1,805 1,814 1,713	21 25 8 10 20 7 7 26 84 90 100 76 64 63	509 484 449 436 407 314 298 324 1,835 1,861 1,905 1,881 1,878 1,776	5% 5% 4% 3% 4%	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	110 188 200 259 241 183 182 182 380 417 514 607 735 866	17 35 22 14 14 20 15 8 65 71 95 100 88 85	127 201 222 273 255 203 197 190 445 488 609 707 823 951	15% 16% 14% 11% 9%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	288 297 225 254 194 165 122 129 1,102 1,096 1,160	11 9 2 6 9 2 6 6 6 6 42 34 42 9 28 28	297 299 306 227 260 203 167 128 135 1,136 1,138 1,194 1,129	4% 3% 3%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	218 449 324 341 309 312 921 1,014 1,116 1,082 1,234 1,288 1,332	19 39 28 27 38 24 87 100 105 95 115 111	322 237 488 352 368 347 336 1,018 1,221 1,177 1,349 1,399 1,445	9% 9% 8% 9% 8%	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 16:30-16:45 18:45-19:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-16:00 17:15-18:15 17:30-18:30	459 441 426 387 307 291 298 1,751 1,771 1,805 1,805 1,814 1,713 1,561	21 25 8 10 20 7 7 26 84 90 100 76 64 63 45	509 484 449 436 407 314 298 324 1,835 1,861 1,905 1,881 1,878 1,776 1,606	5% 5% 4% 3% 4% 3%	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	110 188 200 259 241 183 182 182 380 417 514 607 735 866 883	17 35 22 14 14 20 15 8 65 71 95 100 88 85 70	127 201 222 273 255 203 197 190 445 488 609 707 823	15% 16% 14% 11% 9% 7%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00	288 297 225 254 194 165 122 129 1,102 1,096 1,160 1,100	11 9 2 6 9 2 6 6 6 6 34 42 34 29 28	297 299 306 227 260 203 167 128 135 1,136 1,138 1,194 1,129	4% 3% 3% 3%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30 7:45-8:45	218 449 324 341 309 312 921 1,014 1,116 1,082 1,234 1,288 1,332 1,423	19 39 28 27 38 24 87 100 105 95 115 111 113	322 237 488 352 368 347 336 1,008 1,114 1,221 1,177 1,349 1,399 1,445 1,555	9% 9% 8% 9% 8% 8%	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-16:00 17:15-18:15 17:30-18:30 17:45-18:45	459 441 426 387 307 291 298 1,751 1,771 1,805 1,805 1,814 1,713 1,561 1,411	21 25 8 10 20 7 7 26 84 90 100 76 64 63 45	509 484 449 436 407 314 298 324 1,835 1,861 1,905 1,878 1,776 1,806 1,455	5% 5% 4% 3% 4% 3% 3%	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:10-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30 7:45-8:45	110 188 200 259 241 183 182 182 386 417 514 607 735 866 883 865	17 35 22 14 14 20 15 8 65 71 95 100 88 85 70 63	127 201 222 273 255 203 197 190 445 488 609 707 823 951 953 928	15% 16% 14% 11% 9% 7% 7%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30 17:45-18:45	288 297 225 254 194 165 122 129 1,102 1,096 1,160 1,100 1,064 970	11 9 2 6 9 2 6 6 6 6 42 34 42 9 28 28	297 299 306 227 260 203 167 128 135 1,136 1,138 1,194 1,129 1,092 996	4% 3% 3% 3% 3% 2% 3%
7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	218 449 324 341 309 312 921 1,014 1,116 1,082 1,234 1,288 1,332	19 39 28 27 38 24 87 100 105 95 115 111	322 237 488 352 368 347 336 1,018 1,221 1,177 1,349 1,399 1,445	9% 9% 8% 9% 8%	17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 16:30-16:45 18:45-19:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-16:00 17:15-18:15 17:30-18:30	459 441 426 387 307 291 298 1,751 1,771 1,805 1,805 1,814 1,713 1,561	21 25 8 10 20 7 7 26 84 90 100 76 64 63 45	509 484 449 436 407 314 298 324 1,835 1,861 1,905 1,881 1,878 1,776 1,606	5% 5% 4% 3% 4% 3%	7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	110 188 200 259 241 183 182 182 380 417 514 607 735 866 883	17 35 22 14 14 20 15 8 65 71 95 100 88 85 70	127 201 222 273 255 203 197 190 445 488 609 707 823 951	15% 16% 14% 11% 9% 7%	17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	288 297 225 254 194 165 122 129 1,102 1,096 1,160 1,100 1,064 970 838	11 9 2 6 9 2 6 6 6 34 42 34 29 28 26	297 299 306 227 260 203 167 128 135 1,136 1,138 1,194 1,129 1,092 996 857	4% 3% 3% 3% 3% 2%

## **ROSEDALE INTERCHANGE RAMPS**

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### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT ROSEDALE I/C RAMPS

		iale - Spr M Pesk	ng "Srt-:	10 01/1 61	f-ramp conne		M Peak	LTINEY		SK 33 NB C		M Peak	LO 010	-55 146	Off Ramps/Bu	ok Owens	PM Peak		, , , , ,
lme Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	146	13	159		16:00-16:15	296	26	322		6:00-6:15	174	16	190		16:00-16:15	270	23	293	
6:15-6:30	196	15	211		16:15-16:30	312	24	336		6:15-6:30	226	17	243		18:15-16:30	408	22	430	
6;30-6:45	259	16	275		16:30-16:45	300	36	336		6:30-6:45	222	30	252		16:30-16:45	374	18	392	
6:45-7:00	283	19	302		16:45-17:00	277	22	299		6:45-7:00	378	25	403		16:45-17:00	432	29	461	
7:00-7:15	208	25	233		17:00-17:15	303	30	333		7:00-7:15	197	23	220		17:00-17:15	350	19	369	
7:15-7:30	278	23	301		17:15-17:30	301	24	325		7:15-7:30	245	18	263		17:15-17:30	425	19	444	
7:30-7:45	269	24	293		17:30-17:45	314	21	335		7:30-7:45	343	36	379		17:30-17:45	375	12	387	
7:45-8:00	335	18	353		17:45-18:00	291	22	313		7:45-8:00	366	20	386		17:45-18:00	405	17	422	
8:00-8:15	258	22	280		18:00-18:15	274	19	293		8:00-8:15	273	36	309		18:00-18:15	305	15	320	
8:15-8:30	254	31	285		18:15-18:30	312	17	329		8:15-8:30	258	42	300		18:15-18:30	316	16	332	
8:30-8:45	206	25	231		18:30-18:45	205	15	220		8:30-8:45	191	24	215		18:30-18:45	326	15	341	
8:45-9:00	251	23	274		18:45-19:00	181	13	194		8:45-9:00	242	39	281		18:45-19:00	225	9	234	
5:00-7:00	884	63	947		16:00-17:00	1.185	108	1,293	8%	6:00-7:00	1,000	88	1,088	8%	16:00-17:00	1,484	92	1,576	6%
6:15-7:15	946	75	1.021	7%	16:15-17:15	1,192	112	1,304	9%	6:15-7:15	1,023	95	1,118	8%	16:15-17:15	1.564	88	1,652	5%
3:30-7:30	1.028	83	1,111	7%	16:30-17:30	1,181	112	1,293	9%	6:30-7:30	1,042	96	1,138	8%	16:30-17:30	1,581	85	1,666	5%
8:45-7:45	1,038	91	1,129	8%	16:45-17:45	1,195	97	1,292	8%	6:45-7:45	1.163	102	1,265	8%	16:45-17:45	1,582	79	1,661	5%
7:00-8:00	1,090	90	1,180	8%	17:00-18:00	1,209	97	1.306	7%	7:00-8:00	1.151	97	1,248	8%	17:00-18:00	1,555	67	1,622	4%
7:15-8:15	1,140	87	1,227	7%	17:15-18:15	1,180	86	1,266	7%	7:15-8:15	1,227	110	1,337	8%	17:15-18:15	1,510	63	1,573	4%
7:30-8:30	1,118	95	1,211	8%	17:30-18:30	1,191	79	1,270	6%	7:30-8:30	1,240	134	1,374	10%	17:30-16:30	1,401	60	1,461	4%
7:45-8:45	1,053	96	1,149	8%	17:45-18:45	1,082	73	1,155	6%	7:45-8:45	1.088	122	1,210	10%	17:45-18:45	1.352	63	1,415	4%
3:00-9:00	969	101	1,070	9%	18:00-19:00	972	64	1.036	6%	8:00-9:00	964	141	1.105	13%	18:00-19:00	1.172	55	1,227	4%
Total	2,943	254	3,197	8%	Total	3,366	269	3,635	7%	Total	3,115	326	3,441	9%	Total	4,211	214	4,425	5%
					R-58 (SL+SR)					SR 99 SB O		"SR-99 S		Connec	tor & SR-178	EB/Rosed	ale Hwy (SL	+SR)"	
	•	M Peak			,		PM Peak				- 1	AM Peak					PM Peak	•	
me Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	41	5	46		16:00-16:15	116	13	129		6:00-6:15	59	5	64		16:00-16:15	108	15	123	
8:15-6:30	51	3	54		16:15-16:30	127	9	136		6:15-6:30	75	4	79		16:15-16:30	122	6	128	
6:30-6:45	51	4	55		16:30-16:45	92	7	99		6:30-6:45	90	5	95		16:30-16:45	84	8	92	
6:45-7:00	96	9	105		16:45-17:00	88	3	91		6:45-7:00	91	10	101		16:45-17:00	97	6	103	
7:00-7:15	45	9	54		17:00-17:15	101	5	106		7:00-7:15	36	10	46		17:00-17:15	87	8	95	
7:15-7:30	63	3	86		17:15-17:30	102	8	110		7:15-7:30	50	13	63		17:15-17:30	115	5	120	
7:30-7:45	86	11	97		17:30-17:45	109	8	117		7:30-7:45	61	9	70		17:30-17:45	78	4	82	
7:45-8:00	121	11	132		17:45-18:00	87	4	91		7:45-8:00	62	12	74		17:45-18:00	69	7	76	
3:00-8:15	95	9	104		18:00-18:15	92	3	95		8:00-8:15	66	10	76		18:00-18:15	85	4	89	
B:15-8:30	100	5	105		18:15-18:30	84	5	89		8:15-8:30	77	18	95		18:15-18:30	79	7	86	
8:30-8:45	86	6	94		18:30-18:45	67	8	75		8:30-8:45	92	7	99		18:30-18:45	77	7	84	
0.00-0.40	88	9	97		18:45-19:00	81	4	85		8:45-9:00	75	10	85		18:45-19:00	72	3	75	
			260	8%	16:00-17:00	423	32	455	7%	6:00-7:00	315	24	339	7%	16:00-17:00	411	35	446	89
8:45-9:00	239	21				408	24	432	6%	6:15-7:15	292	29	321	9%	16:15-17:15	390	28	418	79
8:45-9:00 5:00-7:00		25	268	9%	16:15-17:15	400				3100		38	305	12%	16:30-17:30				
8:45-9:00 5:00-7:00 5:15-7:15	239		268 280	9% 9%	16:15-17:15 16:30-17:30	383	23	406	6%	6:30-7:30	267	30	303	1270	10.30-17.30	383	27	410	79
8:45-9:00 6:00-7:00 6:15-7:15 8:30-7:30	239 243	25			10		23 24	406 424	6% 6%	6:30-7:30 6:45-7:45	267 238	42	280	15%	16:45-17:45	383 377	27 23	410 400	
8:45-9:00 6:00-7:00 6:15-7:15 8:30-7:30 8:45-7:45	239 243 255	25 25	280	9%	16:30-17:30	383													69
8:45-9:00 6:00-7:00 6:15-7:15 8:30-7:30 6:45-7:45 7:00-8:00	239 243 255 290	25 25 32	280 322	9% 10%	16:30-17:30 16:45-17:45	383 400	24	424	6%	6:45-7:45	238	42	280	15%	16:45-17:45	377	23	400	69 69
8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 8:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	239 243 255 290 315	25 25 32 34	280 322 349	9% 10% 10%	16:30-17:30 16:45-17:45 17:00-18:00	383 400 399	24 25	424 424	6% 6%	6:45-7:45 7:00-8:00	238 209	42 44	280 253	15% 17%	16:45-17:45 17:00-18:00	377 349	23 24	400 373	69 69 59
8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 8:45-7:45 7:00-8:00 7:15-8:15	239 243 255 290 315 365	25 25 32 34 34	280 322 349 399	9% 10% 10% 9%	16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	383 400 399 390	24 25 23	424 <b>424</b> 413	6% 6% 6%	6:45-7:45 7:00-8:00 7:15-8:15	238 209 239	42 44 44	280 253 283	15% 17% 16%	16:45-17:45 17:00-18:00 17:15-18:15	377 349 347	23 24 20	400 373 367	79 69 69 59 79

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Source: Parsons/HNTB analysis of data from KOA, Draft Report for SR-58 Origin and Destination Truck Study, January 26, 2009.

Note: NA or #VALUE! Indicates data not available.

### CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT ROSEDALE VC RAMPS

		AM Peak					PM Peak				-	M Peak	T-4-1		Warra Bardard	Cars	PM Peak Trucks	Total	%
ime Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks 5	Total 52	%	Time Period	59	15	74	76
6:00-6:15	50	9	59		16:00-16:15	64	14	78 59		6:00-6:15 6:15-6:30	47 57	9	52 66		16:00-16:15 16:15-16:30	96	16	112	
6:15-6:30	56	13	69		16:15-16:30	50	9										17	79	
6:30-6:45	94	11	105		16:30-16:45	66	11	77		6:30-6:45	34	1	35		16:30-16:45	62			
6:45-7:00	162	12	174		16:45-17:00	54	8	62		6:45-7:00	98	22	120		16:45-17:00	76	15	91	
7:00-7:15	91	14	105		17:00-17:15	57	10	67		7:00-7:15	120	8	128		17:00-17:15	46	6	52	
7:15-7:30	109	14	123		17:15-17:30	46	11	57		7:15-7:30	92	8	100		17:15-17:30	60	8	68	
7:30-7:45	115	12	127		17:30-17:45	45	13	58		7:30-7:45	105	6	111		17:30-17:45	42	9	51	
7:45-8:00	196	12	208		17:45-18:00	41	6	47		7:45-8:00	180	6	186		17:45-18:00	33	8	41	
8:00-8:15	122	23	145		18:00-18:15	50	6	56		8:00-8:15	134	11	145		18:00-18:15	27	5	32	
8:15-8:30	60	4	64		18:15-18:30	24	6	30		8:15-8:30	83	8	91		18:15-18:30	24	5	29	
8:30-8:45	101	21	122		18:30-18:45	30	7	37		8:30-8:45	85 ^	11	96		18:30-18:45	17	10	27	
8:45-9:00	91	9	100		18:45-19:00	34	6	40		8:45-9:00	83	<u> </u>	91		18:45-19:00	17	12	29	
6:00-7:00	362	45	407	11%	16:00-17:00	234	42	276	15%	6:00-7:00	236	37	273	14%	16:00-17:00	293	63	356	189
6:15-7:15	403	50	453	11%	16:15-17:15	227	38	265	14%	6:15-7:15	309	40	349	11%	16:15-17:15	280	54	334	169
6:30-7:30	456	51	507	10%	16:30-17:30	223	40	263	15%	6:30-7:30	344	39	383	10%	16:30-17:30	244	46	290	169
6:45-7:45	477	52	529	10%	16:45-17:45	202	42	244	17%	6:45-7:45	415	44	459	10%	16:45-17:45	224	36	262	15
7:00-8:00	511	52	563	9%	17:00-18:00	189	40	229	17%	7:00-8:00	497	28	525	5%	17:00-18:00	181	31	212	15
7:15-8:15	542	61	603	10%	17:15-18:15	182	36	218	17%	7:15-8:15	511	31	542	6%	17:15-18:15	162	30	192	16
7:30-8:30	493	51	544	9%	17:30-18:30	160	31	191	16%	7:30-8:30	502	31	533	6%	17:30-18:30	126	27	153	18
7:45-8:45	479	60	539	11%	17:45-18:45	145	25	170	15%	7:45-8:45	482	36	518	7%	17:45-18:45	101	28	129	22
8:00-9:00	374	57	431	13%	18:00-19:00	138	25	163	15%	8;00-9;00	385	38	423	9%	18:00-19:00	85	32	117	27
Total	1,247	154									4 4 4 4 4	400	4 004				400		40
			1,401	11%	Total	561	107	668	16%	Total	1,118	103	1,221	8%	Total	559	126	685	189
	n Diago	nal - Spr			Total Imps & SR-58	(ER)"		668	16%	Total SR 99 SB O	n Diago	nal - Fall			Total ff Connector 8		BB/Roseda		
R 99 SB O	n Diago	onal - Spr AM Peak	ing "SR-	99 SB Ra	mps & SR-58	(ER)"	PM Peak			SR 99 SB O	n Diago	nal - Fall AM Peak	"SR-99 S	SB On-O	ff Connector 8	SR-178	B EB/Roseda PM Peak	le Hwy (ER)	a.
R 99 SB O Ime Period	n Diago	onal - Spr AM Peak Trucks	ing "SR- Total		Imps & SR-58	(ER)"	PM Peak Trucks	Total	16% %	SR 99 SB O	n Diago ( Cars	nal - Fall AM Peak Trucks	"SR-99 \$   Total		ff Connector & Time Period	SR-178	B EB/Roseda PM Peak Trucks	le Hwy (ER) Total	
R 99 SB O Ime Period 6:00-6:15	Cars	onal - Spr AM Peak Trucks 28	Total	99 SB Ra	Time Period 16:00-16:15	Cars 263	PM Peak Trucks	<b>Total</b> 279		SR 99 SB O Time Period 6:00-6:15	n Diago Cars 71	nai - Fali AM Peak Trucks 24	Total 95	SB On-O	Time Period 16:00-16:15	Cars 205	B EB/Roseda PM Peak Trucks 36	le Hwy (ER)  Total  241	a.
R 99 SB O ime Period 6:00-6:15 6:15-6:30	Cars 88	onal - Spr AM Peak Trucks 28 33	Total 116 143	99 SB Ra	Time Period 16:00-16:15 16:15-16:30	Cars 263 257	PM Peak Trucks 16 20	<b>Total</b> 279 277		SR 99 SB O Time Period 6:00-6:15 6:15-6:30	Cars 71 141	nai - Fall AM Peak Trucks 24 29	Total 95 170	SB On-O	Time Period 16:00-16:15 16:15-16:30	Cars 205 168	B EB/Roseda PM Peak Trucks 36 32	Total 241 200	,a
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45	Cars 88 110 119	onal - Spr AM Peak Trucks 28 33 46	Total 116 143 165	99 SB Ra	Time Period 16:00-16:15 16:15-16:30 16:30-16:45	Cars 263 257 283	PM Peak Trucks 16 20 25	<b>Total</b> 279 277 308		SR 99 SB O  Time Period 6:00-6:15 6:15-6:30 6:30-6:45	Cars 71 141 170	nai - Fail AM Peak Trucks 24 29 42	Total 95 170 212	SB On-O	Time Period 16:00-16:15 16:15-16:30 18:30-16:45	Cars 205 168 188	B EB/Roseda PM Peak Trucks 36 32 23	Total 241 200 211	a.
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	Cars 88 110 119 147	onal - Spri AM Peak Trucks 28 33 46 42	Total 116 143 165 189	99 SB Ra	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00	Cars 263 257 283 227	PM Peak Trucks 16 20 25 19	<b>Total</b> 279 277 308 246		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	Cars 71 141 170 210	rnal - Fall AM Peak Trucks 24 29 42 31	Total 95 170 212 241	SB On-O	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00	Cars 205 168 188 225	B EB/Roseda PM Peak Trucks 36 32 23 25	Total 241 200 211 250	a.
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	Cars  88 110 119 147 110	onal - Spri AM Peak Trucks 28 33 46 42 19	Total 116 143 165 189 129	99 SB Ra	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15	Cars 263 257 283 227 291	PM Peak Trucks 16 20 25 19	Total 279 277 308 246 306		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15	Cars 71 141 170 210 52	rnal - Fall AM Peak Trucks 24 29 42 31	Total 95 170 212 241 86	SB On-O	Time Period 16:05-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15	Cars 205 168 188 225 298	B EB/Roseda PM Peak Trucks 36 32 23 25 16	Total 241 200 211 250 314	a.
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	Cars  88  110  119  147  110  191	Pnal - Spri AM Peak Trucks 28 33 46 42 19 28	Total 116 143 165 189 129 219	99 SB Ra	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	Cars 263 257 283 227 291 246	PM Peak Trucks 16 20 25 19 15	Total 279 277 308 246 306 258		Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30	71 141 170 210 52 93	rnal - Fall AM Peak Trucks 24 29 42 31 34 21	Total 95 170 212 241 86 114	SB On-O	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	Cars 205 168 188 225 298 209	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13	Total 241 200 211 250 314 222	,a
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R 99 SB O ime Period 6:00-8:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30	Representation of the control of the	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17	Total 116 143 165 189 129 219 221 175 185 155	99 SB Ra	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30	Cars 263 257 283 227 291 246 217 194 176 178	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13	Total 279 277 308 246 306 258 234 210 192		Time Period 6:00-6:15 6:15-6:30 6:30-8:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30	71 141 170 210 52 93 109 129 139 86	nai - Fali AM Peak Trucks 24 29 42 31 34 21 29 23 26 28	Total 95 170 212 241 86 114 138 152 165 114	SB On-O	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:90-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30	Cars 205 168 188 225 298 209 171 175 172 185	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22	Total 241 200 211 250 314 222 186 186 194 207	,a
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R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00	Cars  88  110  119  147  110  191  195  158  162  138  150  134	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21	Total 116 143 165 189 129 219 221 175 185 155 169 155	99 SB Ra %	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	Cars 263 257 283 227 291 246 217 194 176 178 283 139	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13 25 12	Total 279 277 308 246 306 258 234 210 192 191 308 151	%	SR 99 SB O  Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00	Cars 71 141 170 210 52 93 109 129 139 86 127 126	nai - Fali AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28	Total 95 170 212 241 86 114 138 152 165 114 151 154	% %	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	Cars  205 168 188 225 298 209 171 175 172 185 166 181	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 111	Total 241 200 211 250 314 222 186 186 194 207 171 192	,,
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-8:00 6:00-7:00	Cars  88 110 119 147 110 191 195 158 162 138 150 134	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21	Total 116 143 165 189 129 219 221 175 185 155 169 155 613	99 SB Ra %	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	Cars 263 257 283 227 291 246 217 194 176 178 283 139 1,030	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13 25 12 80	Total 279 277 308 246 306 258 234 210 192 191 308 151 1,110	7%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00	Cars 71 141 170 210 52 93 109 129 139 86 127 126 592	nai - Fali AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28	Total 95 170 212 241 86 114 138 152 165 114 151 154 718	88 On-O	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	Cars 205 168 188 225 298 209 171 175 172 185 166 181 786	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 11 116	Total 241 200 211 250 314 222 186 186 194 207 171 192	, %
R 99 SB O 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:45-8:00 8:30-8:45 8:45-8:00 6:00-7:00 6:00-7:00 6:15-7:15	Cars  88  110  119  147  110  191  158  162  138  150  134  464  486	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21	Total 116 143 165 189 129 219 221 175 185 169 155 613 626	24% 22%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:015-17:15	Cars 263 257 283 227 291 246 217 194 176 178 283 139 1,030 1,058	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13 25 12 80 79	Total 279 277 308 246 306 258 234 210 192 191 308 151 1,110 1,137	7% 7%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15	Cars 71 141 170 210 52 93 109 129 139 86 127 126 592 573	nai - Fali AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28	Total 95 170 212 241 86 114 138 152 165 114 151 154 709	18% 19%	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15	Cars  205 168 188 225 298 209 171 175 172 185 166 181 786 879	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 11 116 96	Total 241 200 211 250 314 222 186 194 207 171 192 902 975	" %
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:30-7:45 7:45-8:00 8:00-8:05 8:45-8:00 6:00-7:00 6:15-7:15 6:30-7:30	Cars  88  110  119  147  110  191  195  158  162  138  150  134  464  486  567	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21 149 140 135	Total 116 143 165 189 129 219 221 175 185 169 155 613 626 702	24% 22% 19%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30	Cars 263 257 283 227 291 246 217 194 176 178 283 139 1,038 1,058	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13 25 12 80 79 71	Total 279 277 308 246 306 258 234 210 192 191 308 151 1,110 1,137 1,118	7% 7% 7% 6%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:30-7:45 7:45-8:00 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30	Cars 71 141 170 210 52 93 109 129 139 86 127 126 592 573 525	nai - Fali AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28 126 136	Total 95 170 212 241 86 114 138 152 165 114 151 154 709 653	18% 19% 20%	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 18:30-17:30	Cars  205 168 188 225 298 209 171 175 172 185 166 181 786 879 920	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 11 116 96 77	Total 241 200 211 250 314 222 186 186 186 194 207 171 192 902 975 997	," ,9 13 10 81
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:10-7:15 7:15-7:30 7:30-7:45 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	Cars  88  110  119  147  110  191  195  158  162  138  150  134  466  567  643	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21 149 140 135 115	Total 116 143 165 189 129 219 221 175 185 169 155 613 626 702 758	24% 22% 19% 15%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:30-17:45 16:45-17:45	Cars 263 257 283 227 291 246 217 194 176 178 283 139 1,038 1,058 1,047 981	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13 25 12 80 79 71 63	Total 279 277 308 246 306 258 234 210 192 191 308 151 1,110 1,137 1,118 1,044	7% 7% 7% 6% 6%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:30-7:45 7:45-8:00 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45	Cars 71 141 170 210 52 93 109 129 139 86 127 126 592 573 525 464	nai - Fall AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28 126 136 128 115	Total 95 170 212 241 86 114 138 152 165 114 151 154 709 653 579	18% 19% 20%	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:15-17:30 16:45-17:45	Cars  205 168 188 225 298 209 171 175 172 185 166 181 786 879 920 903	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 11 116 96 77 69	Total 241 200 211 250 314 222 186 186 194 207 171 192 902 975 997 972	13 10 8' 7'
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	Cars  88  110  119  147  110  191  195  158  162  138  150  134  464  486  567  643  654	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21 149 140 135 115 90	Total 116 143 165 189 129 219 221 175 185 155 169 155 613 626 702 758 744	24% 22% 19% 15%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:45 17:45-18:00	Cars 263 257 283 227 291 246 217 194 176 178 283 139 1,030 1,058 1,047 981	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13 25 12 80 79 71 63 60	Total 279 277 308 246 306 258 234 210 192 191 308 151 1,110 1,137 1,118 1,044 1,008	7% 7% 7% 6% 6%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:05 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00	Cars 71 141 170 210 52 93 109 129 139 86 127 126 592 573 525 464 383	nai - Fall AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28 126 136 128 115	Total 95 170 212 241 86 114 138 152 165 114 151 154 709 653 579 490	18% 19% 20% 22%	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00	Cars  Cars  205 168 188 225 298 209 171 175 172 185 166 181 786 879 920 903 853	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 11 116 96 77 69 55	Total  241 200 211 250 314 222 186 186 194 207 171 192 902 975 997 972 908	12 10 8 7
R 99 SB O ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:10-7:15 7:15-7:30 7:30-7:45 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	Cars  88  110  119  147  110  191  195  158  162  138  150  134  464  486  567  643  654  706	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21 149 140 135 115 90	Total 116 143 165 189 129 219 221 175 185 155 169 155 613 626 702 758 744 800	24% 22% 19% 15% 12%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:45 17:45-18:00 16:00-17:00 16:15-17:15 16:30-17:45 17:45-18:00 17:15-18:15	Cars 263 257 283 227 291 246 217 194 176 178 283 139 1,030 1,058 1,047 981 948 833	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13 25 12 80 79 71 63 60 61	Total 279 277 308 246 306 258 234 210 192 191 308 151 1,110 1,137 1,118 1,044 1,008 894	7% 7% 7% 6% 6% 6% 7%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	Cars 71 141 170 210 52 93 109 129 139 86 127 126 592 573 525 464 383 470	nai - Fall AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28 126 136 128 115	Total 95 170 212 241 86 114 138 152 165 114 151 154 718 709 653 579 490 569	18% 19% 20% 22% 17%	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:45-19:00 16:00-17:00 16:00-17:00 16:15-17:15 18:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	Cars  Cars  205  168  188  225  298  209  171  175  172  185  166  181  786  879  920  903  853  727	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 11 116 96 77 69 55	Total 241 200 211 250 314 222 186 186 194 207 171 192 902 975 997 972 908 788	133 100 8' 7' 6' 8'
R 99 SB O Ime Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:45-7:00 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30 7:15-8:15 7:30-8:30	Cars  88 110 119 147 110 191 195 158 162 138 150 134 464 466 567 643 654 706 653	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21 149 140 135 115 90 94 83	Total 116 143 165 189 129 219 221 175 185 155 169 155 613 626 702 758 744 800 736	24% 22% 19% 15% 12% 11%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:05-17:30 16:45-17:45 17:00-18:00 17:15-18:30 18:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	Cars 263 257 283 227 291 246 217 194 176 178 283 139 1,058 1,047 981 948 833 765	PM Peak Trucks  16 20 25 19 15 12 17 16 16 13 25 12 80 79 71 63 60 61 62	Total 279 277 308 246 306 258 234 210 192 191 308 151 1,110 1,137 1,118 1,044 1,008 894 827	7% 7% 7% 6% 6% 6% 7% 7%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	Cars 71 141 170 210 52 93 109 129 139 86 127 126 592 573 464 383 470 463	nai - Fall AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28 126 136 128 115 107 99 106	Total 95 170 212 241 86 114 138 152 165 114 151 154 718 709 653 579 490 569	18% 19% 20% 22% 17% 19%	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	Cars  Cars  205  168  188  225  298  209  171  175  172  185  166  181  786  879  920  903  853  727  703	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 11 116 96 77 69 55 61	Total  241 200 211 250 314 222 186 186 194 207 171 192 902 975 997 972 908 788 773	133 100 87 66 99
R 99 SB O Ime Period 6:00-8:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:30-7:45 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	Cars  88  110  119  147  110  191  195  158  162  138  150  134  464  486  567  643  654  706	onal - Spri AM Peak Trucks 28 33 46 42 19 28 26 17 23 17 19 21 149 140 135 115 90	Total 116 143 165 189 129 219 221 175 185 155 169 155 613 626 702 758 744 800	24% 22% 19% 15% 12%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:45 17:45-18:00 16:00-17:00 16:15-17:15 16:30-17:45 17:45-18:00 17:15-18:15	Cars 263 257 283 227 291 246 217 194 176 178 283 139 1,030 1,058 1,047 981 948 833	PM Peak Trucks 16 20 25 19 15 12 17 16 16 13 25 12 80 79 71 63 60 61	Total 279 277 308 246 306 258 234 210 192 191 308 151 1,110 1,137 1,118 1,044 1,008 894	7% 7% 7% 6% 6% 6% 7%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	Cars 71 141 170 210 52 93 109 129 139 86 127 126 592 573 525 464 383 470	nai - Fall AM Peak Trucks 24 29 42 31 34 21 29 23 26 28 24 28 126 136 128 115	Total 95 170 212 241 86 114 138 152 165 114 151 154 718 709 653 579 490 569	18% 19% 20% 22% 17%	Time Period 16:00-16:15 16:15-16:30 18:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:45-19:00 16:00-17:00 16:00-17:00 16:15-17:15 18:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	Cars  Cars  205  168  188  225  298  209  171  175  172  185  166  181  786  879  920  903  853  727	B EB/Roseda PM Peak Trucks 36 32 23 25 16 13 15 11 22 22 5 11 116 96 77 69 55	Total 241 200 211 250 314 222 186 186 194 207 171 192 902 975 997 972 908 788	9 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

## CENTENNIAL CORRIDOR PROJECT EXISTING TRUCK VOLUMES AND PERCENTAGES AT ROSEDALE #C RAMPS

SR 99 NB Or	n - Sprir	ng "SR-99	NB Ran	nps/Silled	ct Ave & Buc			+WT)"		SR 99 NB Or			B On-Off	Ramps/	Sillect Ave & E	Buck Owe		+SR+WT)"	
		AM Peak				F	M Peak				,	M Peak					PM Peak		
Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%	Time Period	Cars	Trucks	Total	%
6:00-6:15	39	18	57		16:00-16:15	107	14	121		6:00-6:15	26	8	34		16:00-16:15	142	1	143	
6:15-6:30	33	6	39		16:15-16:30	88	10	98		6:15-6:30	47	15	62		16:15-16:30	176	2	178	
6:30-6:45	31	12	43		16:30-16:45	104	11	115		6:30-6:45	83	6	89		16:30-16:45	118	2	120	
6:45-7:00	62	9	71		16:45-17:00	88	5	93		6:45-7:00	31	31	82		16:45-17:00	84	0	84	
7:00-7:15	50	11	61		17:00-17:15	128	12	140		7:00-7:15	90	13	103		17:00-17:15	108	3	111	
7:15-7:30	36	14	50		17:15-17:30	93	8	101		7:15-7:30	55	16	71		17:15-17:30	118	0	118	
7:30-7:45	64	12	76		17:30-17:45	76	6	82		7:30-7:45	50	5	55		17:30-17:45	97	1	98	
7:45-8:00	70	12	82		17:45-18:00	77	12	89		7:45-8:00	60	8	68		17:45-18:00	80	2	82	
8:00-8:15	46	10	56		18:00-18:15	98	7	105		8:00-8:15	50	23	73		18:00-18:15	50	0	50	
8:15-8:30	40	17	57		18:15-18:30	50	3	53		8:15-8:30	46	13	59		18:15-18:30	29	6	35	
8:30-8:45	70	14	84		18:30-18:45	52	6	58		8:30-8:45	35	8	43		18:30-18:45	54	1	55	
8:45-9:00	65	12	77		18:45-19:00	49	4	53		8:45-9:00	43	13	56		18:45-19:00	47	2	49	
6:00-7:00	165	45	210	21%	16:00-17:00	387	40	427	9%	6:00-7:00	187	60	247	24%	16:00-17:00	520	5	525	1%
6:15-7:15	176	38	214	18%	16:15-17:15	408	38	446	9%	6:15-7:15	251	65	316	21%	16:15-17:15	486	7	493	1%
6:30-7:30	179	46	225	20%	16:30-17:30	413	36	449	8%	6:30-7:30	259	66	325	20%	16:30-17:30	428	5	433	1%
6:45-7:45	212	46	258	18%	16:45-17:45	385	31	416	7%	6:45-7:45	226	65	291	22%	16:45-17:45	407	4	411	1%
7:00-8:00	220	49	269	18%	17:00-18:00	374	38	412	9%	7:00-8:00	255	42	297	14%	17:00-18:00	403	6	409	1%
7:15-8:15	216	48	264	18%	17:15-18:15	344	33	377	9%	7:15-8:15	215	52	267	19%	17:15-18:15	345	3	348	1%
7:30-8:30	220	51	271	19%	17:30-18:30	301	28	329	9%	7:30-8:30	206	49	255	19%	17:30-18:30	256	9	265	3%
7:45-8:45	226	53	279	19%	17:45-18:45	277	28	305	9%	7:45-8:45	191	52	243	21%	17:45-18:45	213	9	222	4%
8:00-9:00	221	53	274	19%	18:00-19:00	249	20	269	7%	8:00-9:00	174	57	231	25%	18:00-19:00	180	9	189	5%
Total																			
	606	147	753	20%	Total	1.010	98	1,108	9%	Total	616	159	775	21%	Total	1,103	20	1,123	2%
	606	- Spring '	753 "SR-99 S	20% B Ramps	Total	1,010 R)"	98	1,108	9%						Total				2%
SR 99 SB O	n Loop	- Spring '			Total 8 & SR-58 (W	R)"	98 PM Peak	1,108	9%		n Loop								2%
SR 99 SB O	n Loop	- Spring ' AM Peak			<u> </u>	R)"		1,108 Total	9%		n Loop	- Fall "SF					Rosedale Hv		2%
SR 99 SB O	n Loop Cars	- Spring '	"SR-99 S Total	B Ramps	& SR-58 (W	R)"	PM Peak			SR 99 SB O	n Loop	- Fall "SF AM Peak	R-99 SB C	n-Off Co	onnector & SF	R-178 EB/	Rosedale Hv PM Peak	wy (WR)"	
SR 99 SB O	n Loop	- Spring ' AM Peak Trucks	"SR-99 S	B Ramps	& SR-58 (W Time Period	R)" Cars	PM Peak Trucks	Totai		SR 99 SB O	n Loop Cars	- Fall "SF AM Peak Trucks	R-99 SB C	n-Off Co	onnector & SF	R-178 EB/ Cars	Rosedale Hv PM Peak Trucks	wy (WR)" Total	
Time Period 6:00-6:15 6:15-6:30	n Loop Cars	- Spring ' AM Peak Trucks 8 10	"SR-99 S Total	B Ramps	5 & SR-58 (W Time Period 16:00-16:15	R)" Cars 226	PM Peak Trucks	Totai 238		SR 99 SB O Time Period 6:00-6:15	Cars	- Fall "SF AM Peak Trucks 13	7-99 SB C	n-Off Co	Time Period	Cars 138	Rosedale Hv PM Peak Trucks 5	wy (WR)" Total 143	
Time Period 6:00-6:15 6:15-6:30 6:30-6:45	Cars 48 80	- Spring ' AM Peak Trucks 8	"SR-99 S Total 56 90	B Ramps	5 & SR-58 (W Time Period 16:00-16:15 16:15-16:30	Cars 226 198	PM Peak Trucks 12 12	<b>Totai</b> 238 210		SR 99 SB O Time Period 6:00-6:15 6:15-6:30	Cars 73 85	- Fall "SF AM Peak Trucks 13 5	Total 86 90	n-Off Co	Time Period 16:00-16:15 16:15-16:30	Cars 138 177	Rosedale Hv PM Peak Trucks 5 5	ry (WR)"  Total  143  182	
Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00	Cars 48 80 108 99	- Spring ' AM Peak Trucks 8 10 12	Total 56 90 120 108	B Ramps	Time Period 16:00-16:15 16:15-16:30 16:30-16:45	Cars 226 198 209	PM Peak Trucks 12 12 15	Totai 238 210 224		Time Period 6:00-6:15 6:15-6:30 6:30-6:45	Cars 73 85 99	- Fall "SF AM Peak Trucks 13 5 19	Total 86 90 118	n-Off Co	Time Period 16:00-16:15 16:15-16:30 16:30-16:45	Cars 138 177 194	Rosedale Hv PM Peak Trucks 5 5 12	Total 143 182 206	
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FR 99 SB O  Time Period  6:00-8:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	Cars  48  80  108  99  120  166  145  125  179  154  147  125  335  407  493  530  556  615  603	- Spring *AM Peak Trucks 8 10 12 9 14 13 9 12 13 24 11 21 39 45 48 45 48 47 58	Total 56 90 120 108 134 179 154 137 192 178 146 374 452 541 575 604 662 661	10% 10% 10% 9% 8% 7% 9%	Time Period 16:00-16:15 18:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:05-17:30 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15 17:30-18:30	Cars  226 198 209 210 226 210 192 172 171 146 163 130 843 845 843 855 838 800 745 681	PM Peak Trucks  12 12 15 8 8 10 10 9 10 8 9 16 47 43 41 36 37 39 37	Total 238 210 224 218 234 220 202 181 181 154 172 146 380 886 896 874 837 784 718	5% 5% 5% 5% 4% 4% 5%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:10-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15 7:30-8:30	Cars 73 85 99 120 48 52 72 103 118 154 118 107 377 352 292 275 345 447	- Fall "SF AM Peak Trucks 13 5 19 17 33 31 24 15 16 9 10 8 - 54 74 100 105 103 86 64	Total  86 90 118 137 81 83 96 118 134 163 128 115 431 426 419 397 378 431 511	13% 17% 24% 26% 27% 20% 13%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:45-19:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:30 17:30-18:30 18:30-18:45	Cars 138 177 194 218 223 211 187 181 155 122 160 727 812 846 839 802 730 674	Rosedale Hv PM Peak Trucks 5 5 12 4 8 8 8 8 8 8 9 4 26 29 32 28 32 32 32	Total  143 182 206 222 231 219 195 189 159 163 131 164 753 841 878 867 834 762 706	3% 3% 3% 4% 3% 4% 5%
SR 99 SB O	Cars  48  80  108  99  120  166  145  125  179  154  147  125  335  407  493  530  556  615	- Spring * AM Peak Trucks 8 10 12 9 14 13 9 12 13 24 11 21 39 45 48 45 48 47	Total 56 90 120 108 134 179 154 137 192 178 146 374 452 541 575 604 662	10% 10% 10% 9% 8% 7%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:30-18:45 18:45-19:00 16:00-17:00 16:00-17:00 16:45-17:45 17:45-18:00 17:15-17:30 16:45-17:45 17:00-18:00 17:15-18:15	Cars  226 198 209 210 226 210 192 172 171 146 163 130 843 843 845 855 838 800 745	PM Peak Trucks  12 12 15 8 8 10 10 9 10 8 9 16 47 43 41 36 37	Total 238 210 224 218 234 220 202 181 181 154 172 146 890 886 874 837 784	5% 5% 5% 4% 4% 5%	Time Period 6:00-6:15 6:15-6:30 6:30-6:45 6:45-7:00 7:00-7:15 7:15-7:30 7:30-7:45 7:45-8:00 8:00-8:15 8:15-8:30 8:30-8:45 8:45-9:00 6:00-7:00 6:15-7:15 6:30-7:30 6:45-7:45 7:00-8:00 7:15-8:15	73 85 99 120 48 52 72 103 118 154 118 107 377 352 319 292 275 345	- Fall "SF AM Peak Trucks 13 5 19 17 33 31 24 15 16 9 10 8 - 54 74 100 105 103 86	Total 86 90 118 137 81 83 96 118 134 163 128 115 431 426 419 397 378 431	13% 17% 24% 26% 27% 20%	Time Period 16:00-16:15 16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00 18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00 16:00-17:00 16:15-17:15 16:30-17:30 16:45-17:45 17:00-18:00 17:15-18:15	Cars  138 177 194 218 223 211 187 181 155 122 160 727 812 846 839 802 730	Rosedale Hv PM Peak Trucks 5 5 12 4 8 8 8 8 8 8 9 4 26 29 32 28 32	Total  143 182 206 222 231 219 195 189 159 163 131 164 753 841 878 867 834 762	

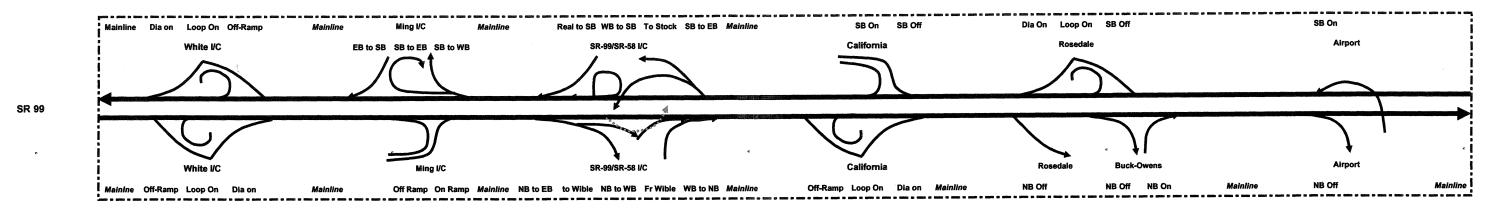
EXISTING VOLUMES (2007/2008)								
			ana in the same	TING (2007	/2008) CO	UNTS		
LOCATION	and the same of	AM F	Peak		55,647	PM P	eak	
	Cars	Trucks	Total Volume	Truck %	Cars	Trucks	Total Volume	Truck %
GR-99 Mainline NB (North of Airport)	<u>1,292</u>	722		26%	1 001	195		20%
GR 99 Airport NB Off	1,383	<u>722</u> 120	<u>2,014</u> 1,503	<u>36%</u> 8%	<u>1,991</u> 1,104	<u>485</u> 96	<u>2,476</u> 1,200	<u>20%</u> 8%
6R-99 Mainline NB (Bet. Rosedale & Airport)	2,674	<u>843</u>	3,517	24%	3,095	581	3,676	16%
GR 99 Buck-Owens NB On	224	42	266	16%	527	5	532	1%
GR 99 Buck-Owens NB Off	671	28	699	4%	213	63	276	23%
SR 99 Rosedale NB Off	1,633	97	1,730	6%	1,668	92	1,760	5%
SR-99 Mainline NB (Bet. California & Rosedale)	<u>4,754</u>	926	<u>5,680</u>	<u>16%</u>	4,449	<u>731</u>	<u>5,180</u>	14%
SR 99 California NB On (Diagonal)	236	21	257	8%	196	17	213	8%
SR 99 California NB On (Loop)	431	38	469	8%	579	50	629	8%
SR 99 California NB Off	972	84	1,056	8%	624	54	678	8%
SR-99 Mainline NB (Bet. SR-58 & California)	<u>5,058</u>	<u>952</u>	<u>6,010</u>	<u>16%</u>	<u>4,298</u>	<u>718</u>	<u>5,016</u>	14%
SR 99 NB On from SR-58 WB	811	277	1,088	25%	793	291	1,084	27%
SR 99 NB Off to SR-58 EB	1,355	156	1,511	10%	1,092	97	1,189	8%
SR 99 NB On from Wible	505	0	505	0%	555	0	555	0%
SR 99 NB Off to Wible Road	248	0	248	0%	268	0	268	0%
SR-99 Mainline NB (Bet. Ming & SR-58)	<u>5,345</u>	<u>831</u>	<u>6,176</u>	<u>13%</u>	<u>4,310</u>	<u>524</u>	<u>4,834</u>	11%
SR 99 Ming NB On (Diagonal)	1,181	103	1,284	8%	1,134	99	1,233	8%
SR 99 Ming NB Off	282	24 752	306 5.406	8%	374	32 459	406 4.007	8%
SR-99 Mainline NB (Bet. White & Ming)	<u>4,443</u> 640	753 41	<u>5,196</u> 681	14% 6%	<b>3,549</b> 430	<u>458</u> 27	<u><b>4,007</b></u> 457	11% 6%
SR 99 White NB On (Diagonal) SR 99 White NB On (Loop)	1,434	92	1,525	6%	430 1,086	69	457 1,155	6%
SR 99 White NB Off	192	12	204	6%	318	20	338	6%
SR-99 Mainline NB (South of White)	2,561	633	3,194	20%	2,352	<u>381</u>	<u>2,733</u>	14%
SR-99 Mainline SB (North of Airport)	1,447	627	2,074	30%	2,416	734	3,150	23%
SR 99 Airport SB On	1,020	89	1,109	8%	1,513	132	1,645	8%
SR-99 Mainline SB (Bet. Airport & Rosedale)	2,467	716	<u>3,183</u>	22%	3,929	866	4,795	18%
SR 99 Rosedale SB Off	541	44	585	8%	598	35	633	6%
SR 99 Rosedale SB On (Loop)	595	103	698	15%	1,241	26	1,267	2%
SR 99 Rosedale SB On (Diagonal)	810	107	917	12%	1,075	116	1,191	10%
SR-99 Mainline SB (Bet. Rosedale & California)	<u>3,331</u>	882	4,213	21%	<u>5,647</u>	973	<u>6,620</u>	15%
SR 99 California SB Off	908	79	987	8%	945	82	1,027	8%
SR 99 California SB On (loop)	293	25	318	8%	777	68	845	8%
SR-99 Mainline SB (Bet. California & SR-58)	<u>2,716</u>	<u>828</u>	<u>3,544</u>	23%	<u>5,480</u>	<u>958</u>	<u>6,438</u>	15%
SR 99 SB Off to SR-58 EB	869	227	1,096	21%	1,102	348	1,450	24%
SR 99 SB On from SR-58 WB	797	136	933	15%	1,112	12	1,124	1%
SR 99 SB Off to Stockdale Hwy	349	0	349	0%	446	0	446	0%
SR 99 SB On from Real Road	243	12	255	5%	252	19	271	7%
SR-99 Mainline SB (Bet. SR-58 & Ming)	<u>2,571</u>	<u>716</u>	3,287	22%	<u>5,234</u>	703	<u>5,937</u>	12%
SR 99 Ming SB Off to WB & EB	729	63	792	8%	1,432	125	1,557	8%
SR 99 Ming SB Off to WB	470	41	511	8%	805	70	875	8%
SR 99 Ming SB Off to EB	259	22	281	8%	627	55	682	8%
SR 99 Ming SB On (Diagonal)	224	20	244	8%	421	37	458	8%
SR-99 Mainline SB (Bet. Ming & White)	2,130 1,285	609 82	2,739 1,367	22% 6%	4,347 1,898	<b>491</b> 121	<u>4,838</u> 2,019	10% 6%
SR 99 White SB Off SR 99 White SB On (Loop)	1,265	6	1,307	6%	1,090	8	132	6%
SR 99 White SB On (Diagonal)	132	8	140	6%	125	8	133	6%
SR-99 Mainline SB (South of White)	1,077	<u>542</u>	1,619	33%	2,699	385	3,084	129
SR-58 Mainline EB (Bet. Real Road & Off Ramp to SR-99 SB)	1,150	<u>51</u>	1,201	<u>33%</u>	1,004	72	1,076	7%
Real Road Off to 99 SB	243	12	255	5%	252	19	271	7%
SR 58 On Ramp from 99 SB	869	227	1,096	21%	1,102	348	1,450	249
SR 58 On Ramp from 99 NB	1,355	156	1,511	10%	1,092	97	1,189	8%
SR-58 Mainline EB (Bet. SR-99 after ramps & H Street)	3,131	422	<u>3,553</u>	12%	<u>2,946</u>	498	3,444	149
SR 58 H Street EB Off	385	25	410	6%	376	24	400	6%
SR 58 Chester EB On	445	28	473	6%	527	34	561	6%
SR-58 Mainline EB (Bet. H Street & Union)	<u>3,190</u>	426	3,616	12%	3,097	<u>508</u>	<u>3,605</u>	149
SR 58 Union EB Off Ramp	775	49	824	6%	528	34	562	6%
SR 58 Union EB On Ramp (Loop)	163	10	173	6%	211	13	224	6%
SR 58 Union EB On Ramp (Diagonal)	185	12	197	6%	224	14	238	6%
SR-58 Mainline EB (Bet. Union & Cottonwood)	<u>2,763</u>	<u>399</u>	3,162	13%	3,003	<u>502</u>	3,505	149
	<u>2,688</u>	<u>456</u>	<u>3,144</u>	<u>15%</u>	2,632	<u>415</u>	<u>3,047</u>	149
SR-58 Mainline WB (Bet. Cottonwood & Union)	1	30	495	6%	317	20	337	69
SR-58 Mainline WB (Bet. Cottonwood & Union) SR 58 Brundage WB Off Ramp	465	Ì	İ	-	8			69
SR-58 Mainline WB (Bet. Cottonwood & Union) SR 58 Brundage WB Off Ramp SR 58 Brundage WB On Ramp	175	11	186	6%	228	15	243	i
SR-58 Mainline WB (Bet. Cottonwood & Union) SR 58 Brundage WB Off Ramp SR 58 Brundage WB On Ramp SR 58 Union WB On Ramp	175 227	11 14	186 241	6% 6%	333	21	354	69
SR-58 Mainline WB (Bet. Cottonwood & Union) SR 58 Brundage WB Off Ramp SR 58 Brundage WB On Ramp SR 58 Union WB On Ramp SR-58 Mainline WB (Bet. Union & H Street)	175 227 <b>2,616</b>	11 14 <u><b>460</b></u>	186 241 <u>3,076</u>	6% 6% <u>15%</u>	333 <u>2,907</u>	21 <u><b>400</b></u>	354 <u>3,307</u>	69 <u>129</u>
SR-58 Mainline WB (Bet. Cottonwood & Union) SR 58 Brundage WB Off Ramp SR 58 Brundage WB On Ramp SR 58 Union WB On Ramp SR-58 Mainline WB (Bet. Union & H Street) SR 58 Chester WB Off	175 227 <b>2,616</b> 431	11 14 <u>460</u> 28	186 241 <b>3,076</b> 459	6% 6% <u>15%</u> 6%	333 <b>2,907</b> 429	21 <b>400</b> 27	354 <u>3,307</u> 456	6% 129 6%
SR-58 Mainline WB (Bet. Cottonwood & Union) SR 58 Brundage WB Off Ramp SR 58 Brundage WB On Ramp SR 58 Union WB On Ramp SR-58 Mainline WB (Bet. Union & H Street) SR 58 Chester WB Off SR 58 H Street WB On	175 227 <b>2,616</b> 431 313	11 14 <b>460</b> 28 20	186 241 <b>3,076</b> 459 333	6% 6% <u>15%</u> 6% 6%	333 <b>2,907</b> 429 437	21 <b>400</b> 27 28	354 3,307 456 465	6% 129 6% 6%
SR-58 Mainline WB (Bet. Cottonwood & Union) SR 58 Brundage WB Off Ramp SR 58 Brundage WB On Ramp SR 58 Union WB On Ramp SR-58 Mainline WB (Bet. Union & H Street) SR 58 Chester WB Off SR 58 H Street WB On SR-58 Mainline WB (Bet. H Street & SR-99)	175 227 <b>2,616</b> 431 313 <b>2,482</b>	11 14 <b>460</b> 28 20 <b>468</b>	186 241 <b>3,076</b> 459 333 <b>2,950</b>	6% 6% <u>15%</u> 6% 6% <u>16%</u>	333 <b>2,907</b> 429 437 <b>2,917</b>	21 <u>400</u> 27 28 <u>399</u>	354 3,307 456 465 3,316	6% 129 6% 6% 129
SR-58 Mainline WB (Bet. Cottonwood & Union) SR 58 Brundage WB Off Ramp SR 58 Brundage WB On Ramp SR 58 Union WB On Ramp SR-58 Mainline WB (Bet. Union & H Street) SR 58 Chester WB Off SR 58 H Street WB On	175 227 <b>2,616</b> 431 313	11 14 <b>460</b> 28 20	186 241 <b>3,076</b> 459 333	6% 6% <u>15%</u> 6% 6%	333 <b>2,907</b> 429 437	21 <b>400</b> 27 28	354 3,307 456 465	69 129 69 69

XXXX J Control numbers from KOA O-D Study (Fall Data)

Table 2
CENTENNIAL CORRIDOR PROJECT
EXISTING FREEWAY AND RAMP VOLUMES - SR 99

	Existin	W.																			m man in 1000 to 1000							
	Cars	1,077	132	101	<u>1,285</u>	2,1	<u>30</u>	<u>224</u>	<u>259</u>	<u>470</u>	2,571	4	243	<u>797</u>	<u>349</u>	<u>869</u>	2,716	300 B HILL O HALL D COMP O COMP	<u>293</u>	908	3,331	<u>810</u>	<u>595</u>	<u>541</u>	2,4	<u>67</u>	<u>1,020</u>	<u>1,447</u>
AM	Trucks	542	8	6	82	60	9	20	22	41	716		12	136	0	227	828		25	79	882	107	103	44	71	6	89	627
	Total	1,619	140	107	1,367	2,7	39	244	281	511	3,287	2	255	933	349	1,096	3,544		318	987	4,213	917	698	585	3,1	83	1,109	2,074
	Cars	2,699	125	124	1,898	4.3	47	<u>421</u>	627	805	5,234	2	252	1,112	<u>446</u>	<u>1,102</u>	<u>5,480</u>		<u>777</u>	<u>945</u>	5,647	<u>1,075</u>	<u>1,241</u>	<u>598</u>	3.9	<u>29</u>	<u>1,513</u>	2,416
PM	Trucks	385	8	8	121	49	1	37	<i>5</i> 5	70	703		19	12	0	348	958		68	82	973	116	26	35	86	16	132	734
	Total	3,084	133	132	2,019	4,8	38	458	682	875	5,937	2	271	1,124	446	1,450	6,438		845	1,027	6,620	1,191	1,267	633	4,7		1,645	3,150

### SOUTHBOUND



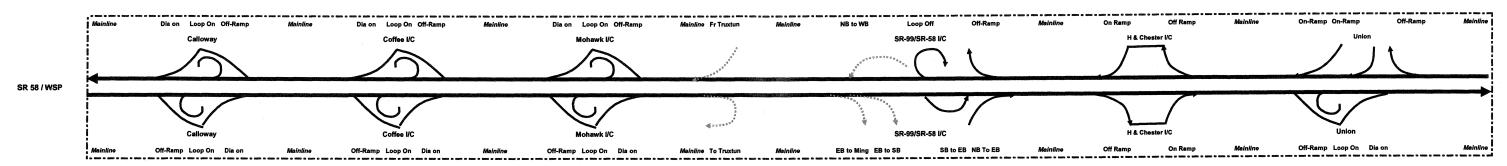
### NORTHBOUND

	•																						
Cars	2,561	<u>192</u>	1,434	640	4.443	282	1,181	5,345	1,355	248	<u>505</u>	<u>811</u>	<u>5,058</u>	<u>972</u>	431	<u>236</u>	4,754	<u>1,633</u>	<u>671</u>	224	2,674	<u>1,383</u>	1,292
rucks !	633	12	92	41	753	24	103	831	156	0	0	277	952	84	38	21	926	97	28	42	843	120	722
otal :	3,194	204	1,525	681	5,196	306	1,284	6,176	1,511	248	505	1,088	6,010	1,056	469	257	5,680	1,730	699	266	3,517	1,503	2,014
																						4.404	
Cars	2,352	<u>318</u>	<u>1,086</u>	<u>430</u>	3,549	<u>374</u>	<u>1,134</u>	4,310	<u>1,092</u>	<u> 268</u>	<u>555</u>	<u>793</u>	4,298	<u>624</u>	<u>579</u>	<u>196</u>	4,449	<u>1,668</u>	<u>213</u>	<u>527</u>	3,095	<u>1,104</u>	1,991
rucks	381	20	69	27	458	32	99	524	97	0	0	291	718	54	50	17	731	92	63	5	581	96	485
otal	2,733	338	1,155	457	4,007	406	1,233	4,834	1,189	268	555	1,084	5,016	678	629	213	5,180	1,760	276	532	3,676	1,200	2,476
	ars rucks otal ars rucks	rucks 633 otal 3,194 ars 2,352 rucks 381	rucks   2,561   192   19	rucks	rucks	tars         2,561         192         1,434         640         4,443           trucks         633         12         92         41         753           otal         3,194         204         1,525         681         5,196           ars         2,352         318         1,086         430         3,549           trucks         384         20         69         27         458	ars         2,561         192         1,434         640         4,443         282           rucks         633         12         92         41         753         24           otal         3,194         204         1,525         681         5,196         306           ars         2,352         318         1,086         430         3,549         374           rucks         381         20         69         27         458         32	ars         2,561         192         1,434         640         4,443         282         1,181           rucks         633         12         92         41         753         24         103           otal         3,194         204         1,525         681         5,196         306         1,284           ars         2,352         318         1,086         430         3,549         374         1,134           rucks         381         20         69         27         458         32         99	ars         2,561         192         1,434         640         4,443         282         1,181         5,345           rucks         633         12         92         41         753         24         103         831           otal         3,194         204         1,525         681         5,196         306         1,284         6,176           ars         2,352         318         1,086         430         3,549         374         1,134         4,310           rucks         381         20         69         27         458         32         99         524	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355           rucks         633         12         92         41         753         24         103         831         156           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092           rucks         381         20         69         27         458         32         99         524         97	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248           rucks         633         12         92         41         753         24         103         831         156         0           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268           rucks         381         20         69         27         458         32         99         524         97         0	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505           rucks         633         12         92         41         753         24         103         831         156         0         0           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555           rucks         381         20         69         27         458         32         99         524         97         0         0	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811           rucks         633         12         92         41         753         24         103         831         156         0         0         277           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793           rucks         381         20         69         27         458         32         99         524         97         0         0         291	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298           rucks         381         20         69         27         458         32         99         524         97         0         0         291         718	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624           rucks         381         20         69         27         458         32         99         524         97         0         0         291         718         54	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972         431           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84         38           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056         469           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624         579           rucks         381         20         69         27         458         32         99         524         97         0         0         291         718         54         50	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972         431         236           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84         38         21           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056         469         257           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624         579         196           rucks         381         20         69         27         458         32         99         524         97         0         0         291         718         54         50         17	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972         431         236         4,754           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84         38         21         926           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056         469         257         5,680           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624         579         196         4,449           rucks         381         20         69         27         458         32         99         524         97         0         0         291         718         54         50         17         731	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972         431         236         4,754         1,633           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84         38         21         926         97           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056         469         257         5,680         1,730           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624         579         196         4,449         1,668           rucks         381         20         69         27         458         32         99         524         97         0         0         291         718         54	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972         431         236         4,754         1,633         671           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84         38         21         926         97         28           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056         469         257         5,680         1,730         699           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624         579         196         4,449         1,668         213           rucks         381         20         69         27         458         32         99         524         97         0	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972         431         236         4,754         1,633         671         224           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84         38         21         926         97         28         42           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056         469         257         5,680         1,730         699         266           arr         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624         579         196         4,449         1,668         213         527           rucks         381         20         69         27         458         32	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972         431         236         4,754         1,633         671         224         2,674           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84         38         21         926         97         28         42         843           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056         469         257         5,680         1,730         699         266         3,517           ars         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624         579         196         4,449         1,668         213         527         3,095           rucks         381         20	ars         2,561         192         1,434         640         4,443         282         1,181         5,345         1,355         248         505         811         5,058         972         431         236         4,754         1,633         671         224         2,674         1,383           rucks         633         12         92         41         753         24         103         831         156         0         0         277         952         84         38         21         926         97         28         42         843         120           otal         3,194         204         1,525         681         5,196         306         1,284         6,176         1,511         248         505         1,088         6,010         1,056         469         257         5,680         1,730         699         266         3,517         1,503           arr         2,352         318         1,086         430         3,549         374         1,134         4,310         1,092         268         555         793         4,298         624         579         196         4,449         1,668         213         527         3,095 <t< td=""></t<>

# Table 3 CENTENNIAL CORRIDOR PROJECT EXISTING FREEWAY AND RAMP VOLUMES - SR 58

	WSP	Existing			····							) A (1111) & (1111) p (1111) p (1111)	
	Cars	<u>Cars</u>	<u>841</u>	<u>797</u>	<u>811</u>	2,482	313	<u>431</u>	<u>2,616</u>	227	<u>175</u>	465 2	2,688
AM	Trucks	Trucks	88	136	277	468	20	28	460	14	11	30	<b>456</b>
	Total	Total	929	933	1,088	2,950	333	459	3,076	241	186	<b>495</b> 3	3,144
	0			4.440	702	2,917	A27	A29	2 007	333	228	317	2 <u>,632</u>
	<u>Cars</u>	<u>Cars</u>	1,0/4	<u>1,112</u>	<u>793</u>		<del>401</del>	723	400	222	45	20	442
PM	Trucks	Trucks	34	12	291	399	28	27	400	21	15	20	410
	Total	Total		1.124	1.084	3.316	465	456	2 207	354	243	227 2	3.047

### WESTBOUND



EASTBOUN
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	WSP	Exist													
	Cars	Cars		1.150	243	<u>869</u>	1,355	3,131	<u>385</u>	445	<u>3,190</u>	<u>775</u>	<u>163</u>	<u>185</u>	2,763
AM	Trucks	Truc	ks	51	12	227	156	422	25	28	426	49	10	12	399
	Total	Total	1 :	1,201	255	1,096	1,511	3,553	410	473	3,616	824	173	197	3,162
	Cars	Cars	, i	1,004	252	1,102	1,092	2,946	<u>376</u>	<u>527</u>	3,097	<u>528</u>	<u>211</u>	224	3,003
PM	Trucks	Truc	i	72	19	348	97	498	24	34	508	34	13	14	502
	Total	Total	. !	1,076	271	1,450	1,189	3,444	400	561	3,605	562	224	238	3,505

,			

### **CORSIM CALIBRATION**

- Existing Conditions Model Calibration Process
- Origin-Destination Volume Table
- Variation of Global/Local Parameters (AM and PM)
- Variation of Local Parameters with Truck Lanes On and Off
- Calibrated Intersection Level of Service Sample

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# EXISTING CORSIM CALIBRATION

#### **EXISTING CONDITIONS MODEL CALIBRATION PROCESS**

#### Network set up:

- The existing AM and PM Centennial CORSIM models were obtained from a previous study which already has an AM and PM CORSIM models developed. The freeway network in these two previously developed models consisted of Highway 99 between White Lane and Olive Drive, and SR-58 between Real Road and Union Avenue. In addition, the surface street network in these models generally consisted of ramp terminal intersections and intersections that are immediately adjacent to the ramp terminals intersections.
- The freeway and surface street network coding in and around the Olive Drive area were eliminated in the existing AM and PM Centennial CORSIM models. Coding verifications and further network setup were then conducted on the following aspects:
  - Speed
  - o Lane configurations
  - Signal phasing and timings
  - Volumes (freeway and intersection)
  - Truck percentages
  - Origin-Destination volume input
  - Conditional movements
  - Lane and turning restrictions
  - Sink and source
- For reporting purposes, a dummy HOV lane was added to the freeway network for both the northbound and southbound directions along Highway 99, such that statistics from simulations can be extracted on a per lane basis for analysis without the use of adding detectors which was an alternative to this method.
- References to the following documents were used in the setup of the CORSIM models:
  - o 2009 posted speed map from the City of Bakersfield website
  - Figure 2 Peak Hour Freeway Volumes Existing Conditions of Fehr and Peers technical memorandum Centennial Corridor Existing Conditions Analysis Results Updated Based on TRIP/Caltrans Comments dated April 22, 2010.
  - HCM Signalized Intersection Capacity Analysis AM peak hour and PM peak hour reports from Fehr and Peers Existing Conditions Synchro analysis.

o Figures XA, XB, and XC Peak Hour Traffic Volumes And Lane Configurations Existing Conditions provided by Fehr and Peers

#### **Calibration Goals:**

- Global Freeway operations were calibrated to the level of service, density, and speed results depicted in the following tables from Fehr and Peers technical memorandum Centennial Corridor Existing Conditions Analysis Results Updated Based on TRIP/Caltrans Comments dated April 22, 2010:
  - Table 1 Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR-58 Eastbound
  - Table 2 Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR-58 Westbound
  - Table 3 Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR-99 Northbound
  - Table 4 Freeway Mainline and Ramp Junction Level of Service Existing Conditions: SR-99 Southbound
- Local Intersections operations were calibrated to the level of service and delay results shown in Table 1A Existing AM Conditions (Updated 4.14.10) Intersection Level of Service Analysis and Table 1B Existing PM Conditions (Updated 4.14.10) Intersection Level of Service Analysis provided by Fehr and Peers.
- Queuing conditions Localized queuing conditions in the models were replicated according to field conditions such as Highway 99 northbound off-ramp to eastbound along Rosedale Highway towards Oak Street in the AM peak hour and westbound on Rosedale Highway towards Highway 99 southbound on-ramp in the PM peak hour.

### **Calibration Runs:**

 Global parameters: vehicle entry headway, car following sensitivity, and Pitt car following constant were tested individually and in combinations as listed in the following table:

File Name Ends with	bal Parameters			
THE MAINE CHOS WITH	Vehicle Entry Headway	Car Following Sensitivity	Pitt Car Following Constant	
default	Constant Headway			
normal	Normal Distribution		1000	
erlang1	Erlang Distribution Shape Parameter alpha=1			
erlang2	Erlang Distribution Shape Parameter alpha=2			
erlang3	Erlang Distribution Shape Parameter alpha=3		100 CV (100 CV)	
erlang4	Erlang Distribution Shape Parameter alpha=4			
erlang5	Erlang Distribution Shape Parameter alpha=5			
erlang6	Erlang Distribution Shape Parameter alpha=6		A STANFAST CONTRACTOR	
erlang7	Erlang Distribution Shape Parameter alpha=7		and the second second	
erlang8	Erlang Distribution Shape Parameter alpha=8			
erlang9	Erlang Distribution Shape Parameter alpha=9			
CFS-1%+1%		-1% (1 to 5) +1% (6 to 10)		
CFS-2%+2%		-2% (1 to 5) +2% (6 to 10)		
CFS-3%+3%		-3% (1 to 5) +3% (6 to 10)		
CFS-4%+4%		-4% (1 to 5) +4% (6 to 10)		
CFS-5%+5%		-5% (1 to 5) +5% (6 to 10)		
CFS-6%+6%		-6% (1 to 5) +6% (6 to 10)		
CFS-7%+7%		-7% (1 to 5) +7% (6 to 10)		
CFS+10%		10%		
CFS+20%		20%	19 (48) W. S. S. S. S. S. S. S. S. S. S. S. S. S.	
CFS+30%		30%	Committee of the Commit	
CFS+40%		40%		
CFS+50%		50%	The state of the party of the state of the s	
CFS+60%		60%	The manifold of the end.	
CFS-10%		-10%		
CFS-20%		-20%	The BOTH CARE	
CFS-30%		-30%		
CFS-40%	<ul> <li>The first field growth of the second s</li></ul>	-40%		
CFS-50%	<ul> <li>Forguer of the experience of the process of the process.</li> </ul>	-50%		
CFS-60%		-60%	ti da sana ka sana ka sa ka sa ka sa sa sa sa sa sa sa sa sa sa sa sa sa	
CFS-70%		-70%		
CFS-80%		-80%		
CFS-90%		-90%		
PCFC-10%			9 ft	
PCFC-20%			8 ft	
PCFC-30%			7 ft	
PCFC-40%			6 ft	
PCFC-50%		PC 15 15 10 10 15 15 15	5 ft	
PCFC-60%			4 ft	
PCFC-70%			3 ft	
CFS+10%_PCFC-10%_norma	Normal Distribution	10%	9 ft	
CFS+10%_PCFC-30%_norma	***************************************	10%	7 ft	
CFS+10%_PCFC-50%_norma	Normal Distribution	10%	5 ft	
CFS+30%_PCFC-10%_norma	Normal Distribution	30%	9 ft	
CFS+30%_PCFC-30%_norma	The state of the s	30%	7 ft	
CFS+30%_PCFC-50%_norma		30%	5 ft	
CFS+50%_PCFC-10%_norma		50%	9 ft	
CFS+50%_PCFC-30%_norma		50%	7ft	
CFS+50%_PCFC-50%_norma		50%	5 ft	
CFS-10%_PCFC-10%_norma		-10%	9 ft	
CFS-10%_PCFC-30%_norma		-10%	7ft	
CFS-10%_PCFC-50%_norma		-10%	5 ft	
CFS-30%_PCFC-10%_norma		-30%	9ft	
CFS-30%_PCFC-30%_norma	TO A PARTICULAR PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PARTY OF THE	-30%	7 ft	
CFS-30% PCFC-50% norma		-30%	5 ft	
CFS-50%_PCFC-10%_norma		-50%	9 ft	
CFS-50%_PCFC-30%_norma		-50%	7 ft	
CFS-50%_PCFC-50%_norma		-50%	5 ft	
CI 3-30/0_FCFC-30/0_HOTHId	- Internal Distribution	-50/0		

- Mainline results for each AM and PM individual and combination global parameter model runs were summarized. (58 AM runs and 58 PM runs).
- Selection of the best run among all global parameter runs were based on speed, density, level of service, and cumulative travel time along Highway 99 for both the northbound and southbound directions. Existing speed, density, and level of service along Highway 99 were available for comparison from Fehr and Peers technical memorandum as stated previously, but there is no field travel time data for the studied section of Highway 99, as such free flow travel time was calculated based on distance and posted speed.
- Global parameter results comparison was summarized in the attached tables; the selected global parameter run is highlighted in yellow and was used for local parameter calibration.

Runs ID	Gk	bal Parameters	
RUIS (U	Vehicle Entry Headway	Car Following Sensitivity	Pitt Car Following Constant
default	Constant Headway		
normal	Normal Distribution		Carlo Barrier Carlo Carl
erlang1	Erlang Distribution Shape Parameter alpha=1		
erlang2	Erlang Distribution Shape Parameter alpha=2		
erlang3	Erlang Distribution Shape Parameter alpha=3		
erlang4	Erlang Distribution Shape Parameter alpha=4		College Strategy Strategy College Strategy
erlang5	Erlang Distribution Shape Parameter alpha=5	kesa bara badas	65 安排 <b>经常进</b> 存的通过。
erlang6	Erlang Distribution Shape Parameter alpha=6	area Periol Garden	
erlang7	Erlang Distribution Shape Parameter alpha=7	sancatara sendic	
erlang8	Erlang Distribution Shape Parameter alpha=8		
erlang9	Erlang Distribution Shape Parameter alpha=9		
CFS-1%+1%		-1% (1 to 5) +1% (6 to 10)	
CFS-2%+2%		-2% (1 to 5) +2% (6 to 10)	
CFS-3%+3%		-3% (1 to 5) +3% (6 to 10)	
CFS-4%+4%		-4% (1 to 5) +4% (6 to 10)	
CFS-5%+5%		-5% (1 to 5) +5% (6 to 10)	LESS AND BUILDING CONTROL
CFS-6%+6%		-6% (1 to 5) +6% (6 to 10)	managa pangan pangan berkeralah
CFS-7%+7%		-7% (1 to 5) +7% (6 to 10)	Richard Colonian
CFS+10%		10%	
CFS+20%		20%	<b>网络克尔斯斯斯斯斯斯斯斯斯</b>
CFS+30%		30%	
CFS+40%		40%	
CFS+50%		50%	
CFS+60%		60%	
CFS-10%		-10%	
CFS-20%		-20%	
CFS-30%		-30%	
CFS-40%		-40%	
CFS-50%	A PERSONAL PROPERTY OF THE PRO	-50%	
CFS-60%		-60%	
CFS-70%		-70%	
CFS-80%		-80%	
CFS-90%		-90%	
PCFC-10%			9 ft
PCFC-20%			8 ft
PCFC-30%			7 ft
PCFC-40%		THE PERSON OF STREET	6 ft
PCFC-50%			5 ft
PCFC-60%			4 ft
PCFC-70%			3 ft
CFS+10%_PCFC-10%_normal	Normal Distribution	10%	9 ft
CFS+10%_PCFC-30%_normal	Normal Distribution	10%	7 ft
CFS+10%_PCFC-50%_normal	Normal Distribution	10%	5 ft
CFS+30%_PCFC-10%_normal	Normal Distribution	30%	9 ft
CFS+30%_PCFC-30%_normal	Normal Distribution	30%	7 ft
CFS+30%_PCFC-50%_normal	Normal Distribution	30%	5 ft
CFS+50%_PCFC-10%_normal	Normal Distribution	50%	9 ft
CFS+50%_PCFC-30%_normal	Normal Distribution	50%	7 ft
CFS+50%_PCFC-50%_normal	Normal Distribution	50%	5 ft
CFS-10%_PCFC-10%_normal	Normal Distribution	-10%	9 ft
CFS-10%_PCFC-30%_normal	Normal Distribution	-10%	7 ft
CFS-10%_PCFC-50%_normal	Normal Distribution	-10%	5 ft
CFS-30%_PCFC-10%_normal	Normal Distribution	-30%	9 ft
CFS-30%_PCFC-30%_normal	Normal Distribution	-30%	70
CFS-30%_PCFC-50%_normal	Normal Distribution	-30%	5 ft
CFS-S0%_PCFC-10%_normal	Normal Distribution	-50%	9 ft
CFS-50%_PCFC-30%_normal	Normal Distribution	-50%	7 ft
CFS-50%_PCFC-50%_normal	Normal Distribution	-50%	5 ft

selected global parameters



# CENTENNIAL PROJECT - CALIBRATION PROCESS EXISTING AM AND PM PEAK HOUR CONDITIONS

## **NETWORK PROPERTIES**

Vehicle Entry Headway

Distribution Type

Default	Constant Headway
	Normal Distribution
	Erlang Distribution with Shape Parameter alpha=1
	Erlang Distribution with Shape Parameter alpha=2
	Erlang Distribution with Shape Parameter alpha=3
	Erlang Distribution with Shape Parameter alpha=4
	Erlang Distribution with Shape Parameter alpha=5
	Erlang Distribution with Shape Parameter alpha=6
	Erlang Distribution with Shape Parameter alpha=7
	Erlang Distribution with Shape Parameter alpha=8
	Erlang Distribution with Shape Parameter alpha=9

## **FRESIM SETUP**

**Driver Behavior** 

Car Following Sensitivity (CFS)

	Carron	O 4411116 Y	/C1131614	ity (Ci S	7					
Driver Type	1	2	3	4	5	6	7	8	9	10
Default	1.25	1.15	1.05	0.95	0.85	0.75	0.65	0.55	0.45	0.35
-1% / +1%	1.24	1.14	1.04	0.94	0.84	0.76	0.66	0.56	0.45	0.35
-2% / +2%	1.23	1.13	1.03	0.93	0.83	0.77	0.66	0.56	0.46	0.36
-3% / +3%	1.21	1.12	1.02	0.92	0.82	0.77	0.67	0.57	0.46	0.36
-4% / +4%	1.20	1.10	1.01	0.91	0.82	0.78	0.68	0.57	0.47	0.36
-5% / +5%	1.19	1.09	1.00	0.90	0.81	0.79	0.68	0.58	0.47	0.37
-6% / +6%	1.18	1.08	0.99	0.89	0.80	0.80	0.69	0.58	0.48	0.37
-7% / +7%	1.16	1.07	0.98	0.88	0.79	0.80	0.70	0.59	0.48	0.37

## Car Following Sensitivity (CFS)

Driver Type	1	2	3	4	5	6	7	8	9	10
Default	1.25	1.15	1.05	0.95	0.85	0.75	0.65	0.55	0.45	0.35
+10%	1.38	1.27	1.16	1.05	0.94	0.83	0.72	0.61	0.50	0.39
+20%	1.50	1.38	1.26	1.14	1.02	0.90	0.78	0.66	0.54	0.42
+30%	1.63	1.50	1.37	1.24	1.11	0.98	0.85	0.72	0.59	0.46
+40%	1.75	1.61	1.47	1.33	1.19	1.05	0.91	0.77	0.63	0.49
+50%	1.88	1.73	1.58	1.43	1.28	1.13	0.98	0.83	0.68	0.53
+60%	2.00	1.84	1.68	1.52	1.36	1.20	1.04	0.88	0.72	0.56
-10%	1.13	1.04	0.95	0.86	0.77	0.68	0.59	0.50	0.41	0.32
-20%	1.00	0.92	0.84	0.76	0.68	0.60	0.52	0.44	0.36	0.28
-30%	0.88	0.81	0.74	0.67	0.60	0.53	0.46	0.39	0.32	0.25
-40%	0.75	0.69	0.63	0.57	0.51	0.45	0.39	0.33	0.27	0.21
-50%	0.63	0.58	0.53	0.48	0.43	0.38	0.33	0.28	0.23	0.18
-60%	0.50	0.46	0.42	0.38	0.34	0.30	0.26	0.22	0.18	0.14
-70%	0.38	0.35	0.32	0.29	0.26	0.23	0.20	0.17	0.14	0.11
-80%	0.25	0.23	0.21	0.19	0.17	0.15	0.13	0.11	0.09	0.07
-90%	0.13	0.12	0.11	0.10	0.09	0.08	0.07	0.06	0.05	0.04



# CENTENNIAL PROJECT - CALIBRATION PROCESS EXISTING AM AND PM PEAK HOUR CONDITIONS

Pitt Car Following Constant (PCFC)

Default	10	feet
-10%	9	feet
-20%	8	feet
-30%	7	feet
-40%	6	feet
-50%	5	feet
-60%	4	feet
-70%	3	feet

## **COMBINATIONS**

Car Following Sensitivity (CFS) of +10%; Vehicle Entry Headway with constant distribution Pitt Car Following Constant (PCFC)

-10%	9 feet
-30%	7 feet
-50%	5 feet

Car Following Sensitivity (CFS) of +30%; Vehicle Entry Headway with constant distribution Pitt Car Following Constant (PCFC)

-10%	9	feet
-30%	7	feet
-50%	5	feet

Car Following Sensitivity (CFS) of +50%; Vehicle Entry Headway with constant distribution Pitt Car Following Constant (PCFC)

-10%	9 fe	et
-30%	7 fe	et
-50%	5 fe	et

Car Following Sensitivity (CFS) of -10%; Vehicle Entry Headway with constant distribution Pitt Car Following Constant (PCFC)

-10%	9	feet
-30%	7	feet
-50%	5	feet

Car Following Sensitivity (CFS) of -30%; Vehicle Entry Headway with constant distribution Pitt Car Following Constant (PCFC)

-10%		9	feet
-30%		7	feet
-50%		5	feet

Car Following Sensitivity (CFS) of -50%; Vehicle Entry Headway with constant distribution Pitt Car Following Constant (PCFC)

-10%		9	feet
-30%		7	feet
-50%		5	feet



## CENTENNIAL EXISTING CONDITIONS: Calibration Results Comparision - SPEED $(\mathbb{MPH})$ CORSIM ANALYSIS RESULTS - AM PEAK

Mill Mill Mill Mill Mill Mill Mill Mill	CORSIM ANALYSIS RESULTS - AM PEAK																												
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See Description of the content of th	SR-99 NB Mainline																								-				
The series of th	SR-99 NB south end of the network to White Ln Off Ramp	65	63 6	3 63	63	63	63	63	63	63 6	63 63	63	63	63	63	63	63	63	63	63	63 6	3 63	53	63	63	63	63	64	63 64
18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	White Ln Off Ramp to White Ln Loop On Ramp	65	62 6	2 61	61	61	61	62	62	62 6	62 62	62	61	62	62	62	62	62	61	61	57 5	1 33	20	62	62	62	62	62	62 63
y wood Changes which wood Change	White Ln Loop On Ramp to White Ln Direct On Ramp	-	38 4	0 37	39	40	38	39	41	40 4	40 40	40	38	38	39	42	40	38	38	39	28 2	0 14	13	39	41	42	42	42	43 44
y w C D Many S M S M S M S M S M S M S M S M S M S	White Ln Direct On Ramp to Ming Ave Off Ramp	60	58 5	7 57	58	55	58	58	58	58 5	56 57	57	58	58	58	58	58	58	49	51 :	27 2	1 18	17	58	59	59	59	59	60 60
2 Segretaries (1) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ming Ave Off Ramp to Ming Ave On Ramp	65	37 3	3 36	39	26	45	38	47	39 2	28 31	26	32	37	38	35	39	38	20	21	17 1	5 14	13	44	49	53	56	58	58 59
See Month plased with planes plased with planes planes planes pla	Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	-	30 3	0 30	31	32	31	30	31	30 3	30 30	30	31	30	30	30	30	31	30	31	30 2	9 29	29	30	31	32	34	34	37 37
3 M 3 M 3 M 3 M 3 M 3 M 3 M 3 M 3 M 3 M	SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	65	61 6	1 61	61	61	61	61	61	61 6	61 61	61	61	61	61	61	61	61	61	60	60 6	1 60	61	61	61	62	62	62	62 62
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## 14 Part	Airport Dr Off Ramp to SR99 NB north end of the network	65	63 6	3 63	63	63	63			63 6	63 63	63	63	63	63	63		63				3 63	63	63	63				
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PARSONS

CORSIM ANALYSIS RESULTS - AM PEAK															2616	cted gio	bbal parameter: CFS	30%, PCF	C -30% (7 IL)	, normai ui	stribution
CONTRACTOR TECCETO AMILITARY										CFS (	CFS C	:F9	CFS C	FS CF	3 T (	F9	CFS CFS	CFS	CFS	CFS	CFS
	CFS	CFS	PCFC	PCFC	PCFC	PCFC	PCFC PCFC	o Pi	CFC			10%		39s -10		10%	-30% -30%	-30%			6 -50%
Freeway Segment	-80%	-90%	-10%	-20%	-30%	-40%	-50% -60%	7	70%	PCFC P	CFC PC	CFC	PCFG PC	FC PCI	C P	crc	PCFC PCFC	PCF	o POF	PCF	
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SR-99 NB Maintine																					
SR-99 NB south end of the network to White Ln Off Ramp	63	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63 (	3	63	64	64 6
White Ln Off Ramp to White Ln Loop On Ramp	62	62	61	62	62	62	62	62	62	61	62	62	62	61	62	62	62 6	2	62	62	62 6
White Ln Loop On Ramp to White Ln Direct On Ramp	43	44	39	41	42	41	40	41	41	38	40	39	39	42	41	43	42	0	42	42	43 4
White Ln Direct On Ramp to Ming Ave Off Ramp	60	60	58	58	58	58		58	58	57	58	58	36	59	59	59				60	60 6 59 5
Ming Ave Off Ramp to Ming Ave On Ramp	60	59	43	42	45	39	52	49	49	41	43	42	18	50	51	54	54 5	300		58	59 5
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	39	38			31	30		31	32	30	31	30	30	31	31	34	33 3			36	39 3
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	62	62			61	61	61	61	61	61	61	61	60	61	61	61		886		62	62 6 59 6
Wible Rd On Ramp to SR58 WB On Ramp	60	60			60	60	59	60	60	59	60	60	59	60	60	60				60	59 6
SR58 WB On Ramp to California Ave Off Ramp	59	59			57	57	57	56	57	56	55	56	55	57	58	58	57 5	888		59	59 5
California Ave Off Ramp to California Ave Loop On Ramp	62	62			62	62	62	62	62	62	62	62	46	62	62	62				62	62 6
California Ave Loop On Ramp to California Ave Direct On Ramp	58	58			56	58	57	57	57	48	55	58	23	57	57	58		3000		58	59 5
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	56	57			45	49	48	47	46	38	41	49	33	47	49	52		2		54	62 6 59 5 56 5 61 6
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	62	62			60	60	60	59	60	59	59	60	59	60	60	61				61	
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	63	63			63	63	63	63	63	62	62	63	62	63	63	63				63	63 6
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp	61	61			60	60	60	60	60	59	60	60	59	60	60	61				61	61 6 63 6
Airport Dr Off Ramp to SR99 NB north end of the network	63	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63 (	3	63	63	63 6
SR-99 SB Mainline																					
SR99 SB north end of the network to Airport Dr On Ramp	64	64			64	64		64	64	64	64	64	64	64	64	64				64	64 6
Airport Dr On Ramp to Rosedale Hwy Off Ramp	60	60			58	58		59	58	58	57	58	56	58	59	58				60	59 5
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	63	63			62	62	62	62	62	62	62	62	62	62	62	62				63	63 6
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	61	61			59	59	60	59	59	59	59	60	58	59	59	60		200		60	60 6
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	59	58			52	53	53	54	54	51	51 62	51	47	53	54	55				57	58 5 62 6
California Ave Off Ramp to California Ave On Ramp	62	62 60			62	62 58	62 59	62	62 58	62 57	62 57	62	62	62	62	62 59		335		62	62 6 59 5
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	59 63	63	58 63		58 63	63	63	58 63	58 63	63	63	58 63	56 63	58 63	58 63	63	900000000	88		60 63	59 5: 63 6: 53 5: 60 5: 63 6:
SR58 WB On Ramp to Real Rd On Ramp		53			54	52	52	53	53	52	52	51	52	53	52	51				53	53 5
Real Rd On Ramp to Ming Ave Off Ramp	51 59	60	59		5 <del>9</del>	58	52 58	58	58	58	58	58	52 57	55 58	58	58	59 5	335		59	60 5
Ming Ave Off Ramp to Ming Ave On Ramp	63	63	63		63	63		63	63	63	63	63	63	63	63	63				63	63 6
Ming Ave On Ramp to White Ln Off Ramp	62	62		61	61	61		61	61	61	61	61	61	61	61	61				62	62 6
White Ln Off Ramp to White Ln Loop On Ramp	63	63	63		63	63	63	63	63	63	63	63	63	63	63	63				63	63 6
White Ln Loop On Ramp to White Ln Direct On Ramp	63	62			63	62		63	62	62	62	63	63	62	63	63				63	63 63
White Ln Direct On Ramp to SR99 SB south end of the network	63	63			63	63		63	63	63	63	63	63	63	63	63				63	63 6
SR58 EB Mainline																					
SR58 west end of the network to SR99 On Ramp	57	56	54	54	54	55	55	55	55	54	54	54	52	55	55	55	55 5	6	56	56	56 5
SR99 On Ramp to H St Off Ramp	59	58		57	58	58		58	58	58	58	58	57	58	58	58		8		59	58 5
H St Off Ramp to Chester Ave On Ramp	60	61	58	60	59	59	59	59	59	59	58	59	57	60	59	60	60 £	0	60	61	60 6
Chester Ave On Ramp to Union Ave Off Ramp	58	58		56	55	55	56	54	55	54	53	55	50	56	55	56	57 5	7		58	57 5
Union Ave Off Ramp to Union Ave Loop On Ramp	62	61	61	61	61	61	61	61	61	61	61	61	60	61	61	61	61 6	2	61	61	57 58 61 6
Union Ave Loop On Ramp to Union Ave Direct On Ramp	60	59	59	59	59	59	58	58	59	58	59	59	60	59	59	59	59 6	0	59	60	60 6
Union Ave Direct On Ramp to SR58 east end of the network	61	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60	61 6	1	60	61	61 6
SR56 W8 Maintine																					
SR58 east end of the network to Brundage Ln Off Ramp	63	63	62	62	62	62	62	62	62	62	62	62	61	62	62	62	62 6	2	62	63	63 6
Brundage Ln Off Ramp to Brundage Ln On Ramp	62	62	62	61	62	61	62	62	61	61	61	61	61	61	62	62	62 6	2	62	62	62 63
Brundage Ln On Ramp to Union Ave On Ramp	61	61	59		59	59		59	60	59	59	60	59	60	60	60	60 6			61	60 60
Union Ave On Ramp to Chester Ave Off Ramp	60	60	58	59	59	58	59	59	59	57	57	59	57	58	59	57	59 5	9	59	59	59 60
Chester Ave Off Ramp to H St On Ramp	62	62	61	61	61	61	61	61	61	61	61	61	61	61	62	61	61 6	1	62	62	62 63
H St On Ramp to SR99 NB Off Ramp	59	59	58	57	58	57	58	58	57	56	56	58	55	58	58	58	58 5	В	59	59	59 59
SR99 NB Off Ramp to SR99 SB Off Ramp	58	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57 5	7	57	57	58 5

## CENTENNIAL EXISTING CONDITIONS: Calibration Results Comparision - Density (Vehicle/Lane/Mile) CORSIM ANALYSIS RESULTS - AM PEAK

CORSIM ANALYSIS RESULTS - AM PEAK																														
		Default										CFS	CFS	CFS	CFS	CFS	CFS C	FS C	FS C	rs c	SFS .	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS CFS
Freeway Segment	1 767 ]		Normal I	Erlanet Erl	lang2 Eri	ane3 Erli	ann4 Er	lano5 Eria	no6 Erta	no7 Erlan	o8 Erland9						-6%+6% -7%						+50%	+60%	-10%	20%	-30%	-40%		60% 70%
		leadway)						7	7																					
SR-99 NB Mainline																														
SR-99 NB south end of the network to White Ln Off Ramp	22	19	19	19	19	19	19	19	19	19	19 19	9 1	9 19	19	19	19	19	19	19	19	19	19	19	23	19	19	19	19	19	19 19
White Ln Off Ramp to White Ln Loop On Ramp	21	18	18	18	18	18	18	18	18	18	18 18	8 1	8 18	18	18	18	18	18	18	18	20	22	34	53	18	18	18	18	18	18 18
White Ln Loop On Ramp to White Ln Direct On Ramp	-	37	35	37	35	35	37	36	34	35	35 35	5 3.	5 37	37	36	33	35	36	37	36	49	64	83	85	36	34	33	33	33	33 32
White Ln Direct On Ramp to Ming Ave Off Ramp	35	30	30	30	30	31	30	30	30	30	30 30	0 3	0 30	30	30	30	30	30	35	34	61	73	81	81	30	29	29	29	29	29 29
Ming Ave Off Ramp to Ming Ave On Ramp	23	38	42	38	36	52	32	40	30	38	48 46	6 5	2 45	38	38	40	38	37	64	63	74	76	79	80	33	29	26	24	23	23 22
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	-	48	48	47	47	45	47	48	47	48	48 48	8 4	8 48	48	48	48	48	48	47	46	46	44	43	41	48	47	45	43	42	40 39
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	21	19	19	19	19	19	19	19	19	19	19 19	9 1	9 19	20	19	19	20	19	19	19	18	17	17	16	19	19	19	19	19	19 19
Wible Rd On Ramp to SR58 WB On Ramp	1 -	20	20	20	20	20	20	20	20	20	20 20	0 2	0 20	20	20	20	20	20	19	20	19	18	17	16	20	20	20	20	20	20 20
SR58 WB On Ramp to California Ave Off Ramp	29	27	27	27	27	26	27	27	27	26	26 26	6 2	7 27	28	27	27	27	27	27	28	27	26	25	24	27	27	27	26	26	26 26
California Ave Off Ramp to California Ave Loop On Ramp	23	21	22	21	20	21	21	21	21	21	20 21	1 2	1 21	21	21	21	22	21	21	41	38	20	21	18	21	21	21	21	21	21 21
California Ave Loop On Ramp to California Ave Direct On Ramp	1 -	23	29	23	22	22	22	23	23	22	24 24	4 2	5 23	31	23	24	29	23	24	65	68	37	33	31	22	23	22	22	22	22 23
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	27	33	33	33	30	30	30	32	34	30	31 34	4 3	7 33	38	32	32	34	34	35	44	43	38	37	33	31	28	26	26	25	25 25
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp		17	18	17	17	17	17	17	17	17	17 17	7 1	7 17	18	17	17	17	18	17	17	17	16	16	15	17	17	17	17	17	17 16
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	17	13	13	13	13	13	13	13	13	13	13 13	3 1	3 13	13	13	13	13	13	13	13	13	12	12	12	13	13	13	13	13	13 13
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp	-	14	15	14	14	15	14	15	15	15	14 14	4 1	5 14	15	15	15	15	15	15	14	14	14	13	14	14	14	14	15	15	15 14
Airport Dr Off Ramp to SR99 NB north end of the network	14	10	10	10	9	10	10	10	10	10	10 10	0 1	0 9	10	10	10	10	10	10	9	9	9	9	9	10	10	10	10	10	10 10
SR-99 SB Mainline																														
SR99 SB north end of the network to Airport Dr On Ramp	20	16	16	16	16	15	16	16	16	15	16 16	6 1	6 16	15	16	16	16	16	16	16	16	16	16	16	16	16	15	15	15	15 15
Airport Dr On Ramp to Rosedale Hwy Off Ramp	19	18	18	18	18	18	17	17	17	18	18 18	8 1	7 17	18	18	17	17	18	18	18	18	18	19	19	17	17	17	17	17	17 17
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	17	14	14	14	14	14	14	14	14	14	14 14	4 1	4 14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14 14
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	-	16	16	16	16	16	16	17	17	16	16 17	7 1	5 16	16	16	16	16	16	17	16	17	17	18	19	16	16	16	16	16	16 16
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	23	24	24	24	24	24	24	25	24	24	24 26	6 2:	3 24	25	24	24	. 24	24	25	26	26	29	31	30	24	23	22	23	22	22 21
California Ave Off Ramp to California Ave On Ramp	19	16	16	16	16	16	17	16	16	16	16 17	7 1	5 16	17	16	16	16	17	17	16	16	16	16	17	16	16	16	16	16	16 16
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	20	18	18	18	19	18	19	18	18	18	18 18	8 1	B 19	19	18	19	18	18	19	19	20	19	20	21	18	18	18	18	18	18 18
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	13	11	11	11	11	11	11	11	11	11	12 11	1 1	1 11	11	11	11	11	12	12	11	11	11	11	12	11	11	11	11	11	11 12
SR58 WB On Ramp to Real Rd On Ramp	-	16	15	15	15	15	15	15	15	15	15 15	5 1	5 15	15	15	15	15	15	15	15	15	15	14	15	15	15	16	15	15	15 15
Real Rd On Ramp to Ming Ave Off Ramp	-	16	16	16	16	16	16	16	16	16	16 16	6 10	5 16	16	16	16	16	16	16	16	16	16	16	17	16	16	16	16	16	16 16
Ming Ave Off Ramp to Ming Ave On Ramp	15	13	13	13	13	13	13	13	13	13	13 13	3 1	3 13	13	13	13	13	13	13	13	12	13	13	13	13	13	13	13	13	13 13
Ming Ave On Ramp to White Ln Off Ramp	21	17	17	17	17	17	17	16	17	17	17 17	7 1	7 16	16	16	16	16	16	17	17	16	17	17	17	17	17	16	16	16	16 16
White Ln Off Ramp to White Ln Loop On Ramp	14	11	11	11	11	11	11	11	11	11	11 11	1 1:	1 11	11	11	11	11	11	12	11	11	11	11	12	11	11	11	11	11	11 11
White Ln Loop On Ramp to White Ln Direct On Ramp	-	11	11	11	10	11	11	10	11	11	11 11	1 1:	1 11	11	11	11	11	10	11	11	10	11	11	11	11	11	11	10	10	11 11
White Ln Direct On Ramp to SR99 SB south end of the network	15	12	12	12	11	12	12	11	12	12	12 12	2 1	2 12	12	12	12	12	11	12	12	11	12	12	12	12	12	12	12	11	12 12
SR58 EB Mainline																														
SR58 west end of the network to SR99 On Ramp	-	9	9	9	9	9	9	9	9	9	9 9	9 10	9	9	9	9	10	9	10	10	10	10	10	10	9	9	9	9	9	9 9
SR99 On Ramp to H St Off Ramp	-	22	21	21	22	21	22	22	22	21	22 22	2 2	2 22	21	22	21	22	21	22	21	22	21	21	21	22	22	22	21	21	21 21
H St Off Ramp to Chester Ave On Ramp	29	24	24	23	24	23	24	23	24	23	24 24	4 24	4 24	23	24	23	24	23	24	24	23	23	25	23	24	24	24	23	24	23 23
Chester Ave On Ramp to Union Ave Off Ramp	34	34	33	33	35	33	34	33	34	33	34 34	4 34	4 34	34	33	33	34	33	34	34	36	34	42	39	33	33	33	33	32	32 31
Union Ave Off Ramp to Union Ave Loop On Ramp	25	25	25	24	25	25	25	25	25	25	25 25	5 24	4 25	24	25	24	25	25	25	24	24	24	24	24	24	25	25	25	24	25 24
Union Ave Loop On Ramp to Union Ave Direct On Ramp	-	23	22	22	23	23	23	23	22	22	23 23	3 2	2 22	22	23	22	23	22	23	22	22	22	22	22	22	22	23	22	22	23 22
Union Ave Direct On Ramp to SR58 east end of the network	28	28	27	26	27	27	28	28	27	27	28 27			27	27	27	27	27	28	27	27	26	27	26	27	27	28	27	27	27 26
SR58 WB Mainline																														
SR58 east end of the network to Brundage Ln Off Ramp	30	26	26	26	26	26	26	26	26	26	26 26	5 20	5 26	26	26	26	26	26	26	26	26	26	26	26	26	26	25	25	25	25 25
Brundage Ln Off Ramp to Brundage Ln On Ramp	25	22	22	22	22	22	22	22	22	22	21 22	2 2	2 22	22	22	21	22	22	22	22	22	22	22	22	22	21	22	22	21	21 22
Brundage Ln On Ramp to Union Ave On Ramp	-	21	21	21	21	21	21	21	21	21	21 21			21	21	21	21	21	21	21	21	22	21	22	21	21	21	21	21	21 21
Union Ave On Ramp to Chester Ave Off Ramp	1 -	25	25	25	24	25	24	25	25	24	24 25		5 25	25	25	24	25	24	25	25	26	26	25	26	25	24	24	24	24	24 24
Chester Ave Off Ramp to H St On Ramp	25	22	21	21	22	21	21	22	21	21	21 22			21	21	21	21	21	22	22	22	22	22	22	22	21	21	21	21	21 22
H St On Ramp to SR99 NB Off Ramp	28	26	24	25	25	24	24	25	24		24 25			25	24	25	24	25	25	25	25	26	26	27	25	24	24	24	24	23 24
SR99 NB Off Ramp to SR99 SB Off Ramp	17	17	16	16	17	16	17	17	17		16 17		7 16	16	16	16	16	16	16	17	17	17	17	17	17	17	16	16	16	16 17
			***************************************																											

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CORSIM ANALYSIS RESULTS - AM PEAK																		,			
										CFS	CFS	CFS	CFS	CFS CFS	CFS	CFS	CFS	CFS	CFS		CFS
	CFS	CFS	POFC	PCFC	PCFC	PCFC	PCFC	PCFC	PCFC	+10%	+10%	+10%	+30%	10% 10%	-10%	-30%	-30%	-30%	-50%		-50%
Freeway Segment	-80%	-90%	-10%	-20%	-30%	-40%	-50%	-60%	-70%	PCFC	PCFC	PCFC	PCFC	POFC POFC	PCFC	PCFC	PCFC	PCFC	PCFC		PCFC
										-10%	-30%	-50%	-10% Normal	-10% -30%	-50% Normal	-10%	-30%	-50% Normal	-10% Normal		50% Ormal
SR-99 NB Mainline									<u> </u>	Normal	Normal	Normal	Action	Normal   Normal	HUIIII	Nontial	Normal	HOHINA	NOTHER	Normal   N	<i></i>
SR-99 NB south end of the network to White Ln Off Ramp	19	19	19	19	19	19	19	19	19	19	19	19	19	19 1	9 19	) 19	19	19	19	19	19
White Ln Off Ramp to White Ln Loop On Ramp	18	18	18	18	18	18	18	18	18		18	18	18	18 1	8 18		18			18	18
White Ln Loop On Ramp to White Ln Direct On Ramp	32	32	36	34	34	34	35	34	35	37	35	36	36	33 3	4 33	33	35	33	33	32	33
White Ln Direct On Ramp to Ming Ave Off Ramp	29	29	30	30	30	30	30	30	30	30	30	30	49	30 2	9 29	29	29	29	29	29	29
Ming Ave Off Ramp to Ming Ave On Ramp	22	22	34	34	33	37	27	29	29	36	34	35	70	28 2	7 25	25	23	23	23	23	23
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	38	38	48	48	48	48	47	48	46	48	48	49	47	47 4	6 43	44	41	42	40	38	39
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	19	19	20	19	19	19	20	19	20	19	20	19		19 1			19	19	19	19	19
Wible Rd On Ramp to SR58 WB On Ramp	20	20	20	20	20	20	20	20			20	20			0 20		20	20	20	20	20
SR58 WB On Ramp to California Ave Off Ramp	26	25	28	27	27	27	27	27			28	27		26 2			26	26		26	26
California Ave Off Ramp to California Ave Loop On Ramp	21	21	21	21	21	20	21	21			21			21 2			21	21	21	21	21
California Ave Loop On Ramp to California Ave Direct On Ramp	22	22	23	24	23	22	22	23			24	22		23 2			23		22	22	22
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	25	24	33	33	31	28	29	30	30	37	34	29		29 2			27		26	25	25
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	17	16	18	18	17	16	17	17			18	17		17 1			17	16		17	17
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	13	13	13	13	13	13	13	13	13	13	13	13			3 13		13	13	13	13	13
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp Airport Dr Off Ramp to SR99 NB north end of the network	15 10	14 10	15 10	15 10	15 10	14 9	15 10	15 10			15 10	15 10		14 1 10 1	4 15 0 10		14 10	14 10	14 10	14 10	15
SR-99 SB Mainline	10	10	10	10	10	9	10	10	10	10	10	10	10	10 1	0 10	10	10	10	10	10	10
SR99 SB north end of the network to Airport Dr On Ramp	15	15	16	16	16	16	15	15	16	16	16	16	16	16 1	6 15	15	15	16	15	15	15
Airport Dr On Ramp to Rosedale Hwy Off Ramp	17	17	17	18	17	17	17	17			18	17		17 1			17	17	17	17	17
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	14	14	14	14	14	14	14	14			14		14	14 1			14	14	14	14	14
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	16	16	16	17	16	16	16	16			16	16		17 1			16	16	16	16	16
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	21	21	23	24	24	24	24	23			24	24	26	24 2	3 23	23	22	22	22	21	22
California Ave Off Ramp to California Ave On Ramp	17	16	16	17	16	16	16	16	17	16	16	16	16	16 1	6 16	16	16	16	16	16	16
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	18	18	18	19	18	18	18	18	18	18	19	18	19	18 1	8 18	18	18	18	18	18	18
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	11	11	11	12	11	11	11	12	12	11	11	11	11	11 1	1 12	11	12	11	12	11	11
SR58 WB On Ramp to Real Rd On Ramp	16	15	14	16	15	15	15	15	15	15	15	16	15	15 1	5 16	15	15	15	15	15	15
Real Rd On Ramp to Ming Ave Off Ramp	16	16	15	17	16	16	16	16	17	16	16	16	16	16 1	6 16	16	16	16	16	16	16
Ming Ave Off Ramp to Ming Ave On Ramp	13	13	12	13	13	13	13	13		13	13		12	13 1			13		13	13	13
Ming Ave On Ramp to White Ln Off Ramp	16	16	16	17	16	17	16	16			17		16	17 1			17		16	16	16
White Ln Off Ramp to White Ln Loop On Ramp	11	11	11	11	11	11	11	11			11		11	11 1:			11		11	11	11
White Ln Loop On Ramp to White Ln Direct On Ramp	11	11	11	11	11	11	11	11			11	11	10	11 1:			11		11	11	11
White Ln Direct On Ramp to SR99 SB south end of the network	12	12	12	12	12	12	12	12	12	12	12	12	11	12 1:	2 12	12	12	12	12	12	12
SR58 EB Mainline			_		_									•				_	_	•	
SR58 west end of the network to SR99 On Ramp	l ,	9	9	9	9	9	9	9	9	9	9	9	10	9 9	-	-	9	9	9	9	9
SR99 On Ramp to H St Off Ramp	22	22	22	21	22	22	22	22			21		21	21 2:			21		21	22 24	21
H St Off Ramp to Chester Ave On Ramp Chester Ave On Ramp to Union Ave Off Ramp	23 32	23 32	24 33	23 32	24 33	24 33	24 33	25 35			24 34		24 36	23 24 32 33			23 31		23 31	24 32	23
Union Ave Off Ramp to Union Ave Loop On Ramp	25	25	33 25	24	33 25	33 25	33 25	26			34 25		24	32 3: 24 2:			24		24	32 25	31
Union Ave Loop On Ramp to Union Ave Loop On Ramp	22	23	23	22	23	22	23	23		23	22		22	22 23		3	22		24	22	22
Union Ave Direct On Ramp to SR58 east end of the network	27	27	25	27	27	27	27	28		27	27		27	27 27			27		27	27	27
Children to Should String to Gride dust one of the notion	-/-	_/	۲۱	۷,	۲1	۲1		20	21	21	21	21	۷.	LI L	. 21	21	21	21	۲,	۲,	

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Brundage Ln Off Ramp to Brundage Ln On Ramp

Brundage Ln On Ramp to Union Ave On Ramp Union Ave On Ramp to Chester Ave Off Ramp

Chester Ave Off Ramp to H St On Ramp H St On Ramp to SR99 NB Off Ramp SR99 NB Off Ramp to SR99 SB Off Ramp

Union Ave Loop On Ramp to Union Ave Direct On Ramp Union Ave Direct On Ramp to SR58 east end of the network SR58 WB Maintine
SR58 east end of the network to Brundage Ln Off Ramp

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### CENTENNIAL EXISTING CONDITIONS: Calibration Results Comparision - Level of Service (LOS) HCM 2000 Criteria

	RESULTS -	

CORSIM ANALYSIS RESULTS - AM PEAK																														
		Default									CFS	CFS C		FS CFS	cFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS C	FS CF	s CFS	CFS	CFS	CFS.	OFS C	FS
Fromay Sogment	FSP	1	Normal Er	tangi Erlang	2 Felans	3 Erlang4	Erlands I	irlang6 Erla	po7 Friance	Grann9		25.25 35		ro uro #4% 5%+5				-20%	-30%					rs   Gr 0%   30				-70%	- R0% - 90	
and the second s	Analysi	Headway)										*****		7.7		'  ' ''' '						~~ "		""			7""	"""	~~   ~	
SR-99 NB Maintine			-																									<del></del>		
SR-99 NB south end of the network to White Ln Off Ramp	С	С	с с	С	С	С	с с	С	С	c c	С С	: с	С	С	С	С	С	C I		С	С	С	С	С	С	С	С	с с	c c	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
White Ln Off Ramp to White Ln Loop On Ramp	С	C	с с	С	С	С	в в	В	С	В	: c	С	В	В	C	С	С	C (		D	F	С	С	В	С	В	В	В Е	3 B	
White Ln Loop On Ramp to White Ln Direct On Ramp	-	E	E E	E	D	E	E D	E	D	D E	. E	: Е	Ε	D	E	E	E	E 1	: г	F	F	E	D	D	D	D	D	D [	o o	
White Ln Direct On Ramp to Ming Ave Off Ramp	D	D	D D	D	D	D	D D	D	D	D 0	D D	D D	D	D	D	D	D	D 1	- F	F	F	D	D	D	D	D	D	D [	) D	
Ming Ave Off Ramp to Ming Ave On Ramp	С	E	Ε Ε	E	F	D	E D	E	F	F F	. E	: Е	E	E	E	E	F	F I	- F	F	F	D	D	С	С	С	С	c c	c c	
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	-	F i	F F	F	F	F	F F	F.	F	F F	F	F F	F	F	F	F	F	F I	: Е	E	Ε	F	F	F	Ε	E	E	E E	i E	
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	C	C	с с	С	С	C	c c	С	C	c c	: с	С	С	С	С	С	C	C (	С В	В	В	С	c	С	С	С	С	c c	. c	
Wible Rd On Ramp to SR58 WB On Ramp		C	с с	С	С	С	с с	. С	С	c c	: c	: с	С	С	С	С	C	C (	: в	В	В	С	С	С	С	С	С	c c	с с	
SR58 WB On Ramp to California Ave Off Ramp	D	D 1	D D	D	D	D	D D	D	D	D D	) D	D D	D	D	D	D	D	D I	) (	С	С	D	D	D	D	D	D	D C	i c	
California Ave Off Ramp to California Ave Loop On Ramp	С	С (	с с	С	С	С	c c	С	C	c c	. c	c c	С	С	С	C	C	E 1	: 0	С	С	С	c	C	С	С	С	c c	. c	
California Ave Loop On Ramp to California Ave Direct On Ramp	-	C I	р с	С	С	С	c c	С	С	c c	: с	. D	С	С	D	С	C	F I	: Е	D	D	С	C	C	С	C	С	c c	. c	
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	D	D I	D D	D	D	D	D D	D	D	D E	D	) E	D	D	D	D	D	E 1	Ε .	E	D	D	D	D	С	С	C	c c	. c	
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp		B I	в в	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В	3 В	В	В	В	В	В	В	В	В	В В	3 B	
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	В	В 1	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	B I	3 В	В	В	В	В	В	В	В	В	В В	3 В	
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp	-	B I	3 В	В	В	В	в в	В	В	в в	В	В В	В	В	В	В	В	В (	3 В	В	В	В	В	В	В	В	В	B B	3 B	
Airport Dr Off Ramp to SR99 NB north end of the network	В	Α ,	4 A	A	Α	Α .	А А	Α	Α	A A	. А	\ A	Α	Α	Α	Α	Α .	Α /	A A	. A	Α	Α	Α	Α	Α	Α	Α	Α Α	A A	
SR-99 SB Maintine																														
SR99 SB north end of the network to Airport Dr On Ramp	С	B I	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В (	В В	В	В	В	В	В	В	В	В	в в	3 B	
Airport Dr On Ramp to Rosedale Hwy Off Ramp	С	В (	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В (	з с	С	С	В	В	В	В	В	В	B B	з В	
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	В	В (	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В Е	В В	В	В	В	В	В	В	В	В	B B	3 B	
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	l -	В 6	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В 8	В В	В	С	В	В	В	В	В	В	B B	з В	
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	С	С (	: с	Ċ	С	C	с с	С	С	c c	: с	: с	С	С	С	С	C (	C (	) D	D	D	С	c	С	С	С	c	c c	. c	
California Ave Off Ramp to California Ave On Ramp	С	В 6	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В Е	В В	В	В	В	В	В	В	В	В	В В	, B	
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	С	С (	: с	С	С	C	с с	В	С	с в	C	: с	В	С	С	С	C (	С (	: c	С	С	С	В	С	В	В	В	B C	. В	
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	В	В Е	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В Е	В В	В	В	В	В	В	В	В	В	В В	, B	
SR58 WB On Ramp to Real Rd On Ramp		В Е	В В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В Е	В В	В	В	В	В	В	В	В	В	В В	, B	
Real Rd On Ramp to Ming Ave Off Ramp		В 6	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В Е	B B	В	В	В	В	В	В	В	В	B B	, B	
Ming Ave Off Ramp to Ming Ave On Ramp	В	B E	В В	В	В	В 1	в в	В	В	в в	В	В	В	В	В	В	В	В Е	В	В	В	В	В	В	В	В	В	В В	į B	
Ming Ave On Ramp to White Ln Off Ramp	С	В Е	3 В	В	В	В	в в	В	В	в в	В	В	В	В	В	В	В	В Е	В	В	В	В	В	В	В	В	В	в в	, B	
White Ln Off Ramp to White Ln Loop On Ramp	В	В Е	3 В	Α	В	В /	A B	В	В	в в	. A	. А	В	Α	В	Α	В (	В А	В	В	В	В	В	В	Α	Α	В	В В	, B	
White Ln Loop On Ramp to White Ln Direct On Ramp	-	Α Α	4 A	Α	Α	Α /	А А	Α	Α	A A	. А	. А	Α	Α	Α	Α	В /	Α Α	\ А	Α	В	Α	Α	Α	Α	Α	Α	A A	, A	
White Ln Direct On Ramp to SR99 SB south end of the network	В	В Е	В В	В	В	B I	в в	В	В	в в	В	В	В	В	В	В	В (	B E	В	В	В	В	В	В	В	В	В	B B	, В	
SRSS ES Mainling																														#
SR58 west end of the network to SR99 On Ramp	-	Α Α	Α Α	Α	Α	Α /	А А	А	Α	A A	. А	. А	Α	Α	Α	A	Α /	Α Α	\ А	Α	Α	А	Α	Α	Α	Α	Α	A A	. А	
SR99 On Ramp to H St Off Ramp		с с	: с	С	С	С (	с с	С	С	c c	С	С	С	С	С	С	С (	c c	: с	С	С	С	С	С	С	С	С	c c	. с	
H St Off Ramp to Chester Ave On Ramp	D	c c	. с	C	С	C (	с с	С	С	с с	С	С	С	С	С	С	С (	c c	: с	С	С	С	С	С	С	С	С	c c	, с	
Chester Ave On Ramp to Union Ave Off Ramp	D	D [	) D	D	D	D (	D D	D	D	D D	D	D	D	D	D	D	D [	D E	D	E	Ε	D	D	D	D	D	D	D D	, D	
Union Ave Off Ramp to Union Ave Loop On Ramp	С	c c	. с	C	С	С (	с с	С	С	с с	С	С	С	С	С	С	С (	c c	: с	С	С	С	С	С	С	С	С	с с	, с	
Union Ave Loop On Ramp to Union Ave Direct On Ramp	1 :	C C	. c	C -	C	C (	С	c	C	c c	С	С	C	c	c	C	С (	c c	: с	С	С	С	С	С	С	С	С	c c	. с	
Union Ave Direct On Ramp to SR58 east end of the network	D	D C	) D	D	D	D [	D D	D	D	D D	D	) D	D	D	D	D	D [	D [	) D	D	D	D	D	D	D	D	D	D D	) D	
SR58 WB MeInitine SR58 east end of the network to Brundage Ln Off Ramp	T .								-			-		-						_	_	_	-	-	-		-			
Show east and of the network to Brundage Ln Off Ramp  Brundage Ln Off Ramp to Brundage Ln On Ramp	D			L C	U			C	C		C	C	C	C	C	C C	. (		. с	D	υ	C	C	C	C	C	C	L C		
Brundage Ln Off Hamp to Brundage Ln On Hamp  Brundage Ln On Ramp to Union Ave On Ramp	С		. с	C	C	· (	L C	c	C	. c	C	C	C	C	C	C	. (		. c	c	c	c	C	C	C	C	Ċ	C C	. с	
Brundage Ln On Hamp to Onion Ave On Hamp Union Ave On Ramp to Chester Ave Off Ramp	1 -			C	C			c	C	C C	C	C	C	c	C	C	. (		. c	C -	C	C	C	C	C	C	C	C C	. с	
	1 :			C	C	· (	L C	C	C	. C	C	C	C	C	C	L .	. (		. C	C	D	C	C	C	C	C	Ċ	. c	. с	
Chester Ave Off Ramp to H St On Ramp	С		. c	C	C	· · · ·	. c	c	C	C C	С	C	c	C	C		. (		С	С	C	C	C	C	C	C	C	C C	C	
H St On Ramp to SR99 NB Off Ramp	D	c c	. с	C	C	· ·	C .	C	C	С С	C	C	C	C	C	C	. (		. c	D	D	C	C	C	C	C	C	C C	C	
SR99 NB Off Ramp to SR99 SB Off Ramp	В	в В	В	В	В	ъ E	5 B	В	В	в В	В	В	В	В	В	В	в Е	5 B	В	В	В	В	В	В	В	В	В	в B	В	

CORSIM ANALYSIS RESULTS - AM PEAK																
								CFS C	FS ·	CFS CFS	CFS CF	S CFS	CFS CFS	CFS CFS	CFS	CFS
	POFC	PCFC	POFC	POFC	POFC P	OFC P	CFC +	10% +1	10%	10% (30%	10% 10	% -10%	-30%	-30% -50%	-50%	-50%
Freeway Segment	-10%	-20%	-30%	-40%	-50% -6	i0%   -			CPC   P	POFC POFC	PCFC PC			PCFC PCFC	PCFC	PCFC
								10% -3	iona   -	50% -10%	-10% -30	% -50%	-10% -30%	-50% -10%	-30%	50%
							N.	ormai No	rmai N	ormal Normal	Normal Nor	nai Norma	Normal Normal	Normal Normal	Normal	Normal
SR-99 NB Mainling																
SR-99 NB south end of the network to White Ln Off Ramp	c	С	С	С	c c	С	С	С	С	С	с с	С	c c	СС	С	С
White Ln Off Ramp to White Ln Loop On Ramp	c	С	С	С	B C	С	С	С	С	С	С В	С	C C	С В	С	С
White Ln Loop On Ramp to White Ln Direct On Ramp	E	D	D	D	D D	D	E	D	E	E	D D	D	D D	D D	D	D
White Ln Direct On Ramp to Ming Ave Off Ramp	D	D	D	D	D D	D	D	D	D	F	D D	Ð	D D	D D	D	D
Ming Ave Off Ramp to Ming Ave On Ramp	D	D	D	E	D D	D	E	D	D	F	D D	С	с с	с с	С	С
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	F	F	F	F	F F	F	F	F	F	F	F F	E	E E	E E	E	E
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	C	С	С	С	c c	С	С	С	С	С	СС	С	сс	СС	С	С
Wible Rd On Ramp to SR58 WB On Ramp	C	C	C	C	C C	. c	C	C	c	C	c c	C	СС	СС	C -	C
SR58 WB On Ramp to California Ave Off Ramp	D	D	D	D	D D	D	D	D	D	D	D С	D	D D	D D	D	D
California Ave Off Ramp to California Ave Loop On Ramp California Ave Loop On Ramp to California Ave Direct On Ramp	C	c	C	C	C C	C	C	C	C	D	c c	c	C C	C C	C	C
California Ave Direct On Ramp to California Ave Office Off	L .					C	D	C				C			C	
California Ave priest of Harrip to Hosesdate Prey of Infanty Rosedale Hwy Off Ramp to Buck Owens Blvd/Silled Ave Off Ramp	L L		D	υ -	ט ט	D D	t n	D	D	t n		D D	ט ט			C C
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	l <sup>b</sup>	D D		B	B B	В .			В п	В	в в	В п	B B	B B	B	B D
Buck Owens Bird/Sillect Ave On Ramp to Airport Dr Off Ramp	l.	D	B	D D	D D	D	В	D	D D	В	в в В В	D D	0 0	D D	D D	D D
Airport Dr Off Ramp to SR99 NB north end of the network	, .	٨	A	۸	A A	۸	۸ .	۸	۸	Α .	-	Δ.	D D	A A	۸	Δ
Amport of Contraining to district the district and district the distri	ľ	^	^	^	A A		^	Α	^	Α .	А А	А	А А	A A	. ^	A
SR99 SB north end of the network to Airport Dr On Ramp	B	R	R	R	R R	В	R	R	R	R	R R	R	R R	R R	R	R
Airport Dr On Ramp to Rosedale Hwy Off Ramp	В	В	В	B	в в	В	В	В	В	c	B B	B	B B	B B	В	B
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	В	В	В	В .	в в	В	В	В	В	В	в в	В	в в	в в	В	В
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	В	В	В	В	в в	В	В	В	В	В	в в	В	в в	в в	В	В
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	c	С	С	С	с с	С	С	С	С	D (	с с	c	с с	с с	С	С
California Ave Off Ramp to California Ave On Ramp	В	В	В	В	в в	В	В	В	В	В	в в	В	в в	в в	В	В
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	В	С	С	С	в с	c	С	С	С	С (	СС	С	В В	в в	С	С
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	В	В	В	В	в в	В	В	В	В	B I	в в	В	В В	в в	В	В
SR58 WB On Ramp to Real Rd On Ramp	В	В	В	В	В В	В	В	В	В	В 1	в в	В	в в	в в	В	В
Real Rd On Ramp to Ming Ave Off Ramp	В	В	В	В	В В	В	В	В	В	В	3 В	В	В В	В В	В	В
Ming Ave Off Ramp to Ming Ave On Ramp	В 1	В	В	В	В В	В	В	В	В	В	3 В	В	в в	В В	В	В
Ming Ave On Ramp to White Ln Off Ramp	В	В	В	В	в в	В	В	В	В	В	в в	В	в в	В В	В	В
White Ln Off Ramp to White Ln Loop On Ramp	Α Ι	В	В	В	B A	В	В	В	В	Α Ι	3 B	В	в в	A B	Α	В
White Ln Loop On Ramp to White Ln Direct On Ramp	Α /	A	A	A	A A	В	A	A R	A	A /	A A	A	A A	A A	Α .	A
White Ln Direct On Ramp to SR99 SB south end of the network	IB I	В	В	В	в в	В	В	В	В	В	3 В	В	B B	в в	В	В
SR58 EB Maintine SR58 west end of the network to SR99 On Ramp		٨				А		۸								Α
SR99 On Ramo to H St Off Ramp	ľ /	~	~	A .	G G	Č	. A	A C	C A	C (		A C	A A	A A		C
H St Off Ramp to Chester Ave On Ramp	, ,	r	c	c		C		c		c (		C		c c		
Chester Ave On Ramp to Union Ave Off Ramp	n '	n	D	D	D D	D	D	D	D	F	-	D	D D	D D	D .	D
Union Ave Off Ramp to Union Ave Loop On Ramp	c c	r	c .	c	c c	ć	ć	c	c	c c		Ċ	c c	c c	Ċ	c
Union Ave Loop On Ramp to Union Ave Direct On Ramp	c d	c	c ·	c	c c	č	č	č	č	c c		č	c c	c c	Č.	c
Union Ave Direct On Ramp to SR58 east end of the network	D .	D	D	D	D D	D	D	D	D	D 0		D	- 1000000000000000000000000000000000000	D D	D 1	D
SR58 WB Mainline																
SR58 east end of the network to Brundage Ln Off Ramp	c (	С	C ·	С	с с	С	С	С	С	c c	: с	С	с с	с с	С (	С
Brundage Ln Off Ramp to Brundage Ln On Ramp	c c	c	C	C	с с	С	С	С	С	с с	: с	С	c c	с с	c ·	С
Brundage Ln On Ramp to Union Ave On Ramp	c c	С	c i	С	с с	С	С	С	С	c c	: с	С	с с	с с	c ·	С
Union Ave On Ramp to Chester Ave Off Ramp	c c	С	C	С	с с	С	С	С	С	c c	: с	С	c c	с с	C ·	С
Chester Ave Off Ramp to H St On Ramp	c c	С	C (	C	с с	С	С	С	С	c c	: с	С	c c	с с	C	С
H St On Ramp to SR99 NB Off Ramp	c c	C ·	С (	C	с с	С	С	С	С	c c	: с	С	c c	с с	C (	С
SR99 NB Off Ramp to SR99 SB Off Ramp	В Е	В	В	В	в в	В	В	В	В	B E	В	В	В В	ВВ	В г	В

## CENTENNIAL EXISTING CONDITIONS: Calibration Results Comparision - Cumulative Travel Time (seconds)

CORSIM ANALYSIS RESULTS - AM PEAK																																	
		Default											CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS
Freeway Segment	Free Flo	ow (Constant	Normal	Erlang1	Erlang2	Erlang3	Erlang4	Erlang5 E	rlang6 Erl	ma? Ei	rland8 Erla		1%+1%			45.45		-6%+6% -			420%	+30%	+40%	+50%	+60%	-10%	-20%	-30%	-40%	-50%			-80%
		Headway																															
SR-99 NB Mainline	+-	L	L	1 1	<u> </u>		L		ı		L	<u> </u>	L.						L	L					<u> </u>								
Ming Ave Off Ramp to Ming Ave On Ramp	16	57 207	212	210	204	225	199	210	196	206	219	216	222	216	207	207	207	207	205	251	246	348	413	475	528	199	9 192	188	184	183	182	180	181
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	17				225	245	219	231	217	227	240	237	243	237	228	228	227	228	226	272	267	369	434	497	550	220	212	2 207	203	201	199	197	197
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	20			263	257	278	251	263	249	259	272	270	276	269	260	261	259	260	258	304	300	402	467	530	582	253	3 245	239	235	233		229	229
Wible Rd On Ramp to SR58 WB On Ramp	21				267	287	261	273	259	269	282	279	285	279	270	270	269	270	268	314	309	412	476	539						243		238	239
SR58 WB On Ramp to California Ave Off Ramp	24		312		303	323	298	310	296	305	318	315	323	316	307	306	305	306	304	351	348	449	515	578						278		273	273
California Ave Off Ramp to California Ave Loop On Ramp	26		329		320	340	314	326	312	321	335	332	339	333	324	323	322	324	321	367	380	481	532	597								289	290
California Ave Loop On Ramp to California Ave Direct On Ramp	27		341		329	349	324	336	322	331	345	342	349	342	337	332	332	336	330	378	408	510	549	613								299	299
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	29		374		359	379	354	367	356	361	376	376	385	374	375	364	364	370	363	413	452	555	590	654					330	328		324	324
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	30		390	385	376	395	370	383	372	377	393	392	402	391	392	381	380	386	380	429	469	572	606	671					346			339	339
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	34		424		409	428	403	417	406	410	426	425	435	424	425	414	413	419	413	463	502	606	640									372	372
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp	37				443	463	437	451	440	444	460	460	470	459	459	448	447	453	447	497	537	640	675	739								406	406
Airport Dr Off Ramp to SR99 NB north end of the network	41		498		483	503	478	491	440	485	500	500	510	499	499	488	487	494	487	537	577	681	716	780								446	446
% Difference against Free Fl		19%	21%	20%	18%	23%	16%						24%	22%	22%	19%	19%	20%	19%	31%	41%	66%	74%	90%	101%	17%	14%	12%	10%	10%	9%		9%
SR-99 SB Mainline		2.70	E-1/0	2070	10/0	23/0	2070	23/0	2.70 I		/U Z.		a-7/0	~E/U	22/0	13/0	1370	_0/0	-370	-1/0	.270	30/0	7-770	3070	202/3	2770	2-7/0	/-	2070	20,0	-,-	-/-	-,-
SR99 SB north end of the network to Airport Dr On Ramp	4	17 48	48	49	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	3 48	48	48	48	48	48	48
Airport Dr On Ramp to Rosedale Hwy Off Ramp	1 7		82	82	82	82	81	82	82	82	82	82	81	81	81	82	82	82	82	82	82	82	83	84	83	81	81	. 81	81	. 81	80	80	80
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	10	00 107	107	107	107	106	106	106	107	107	107	107	106	106	106	106	106	106	107	107	107	107	108	109	108	106	106	105	105	105	105	104	105
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	11		121	121	121	120	120	120	121	121	121	121	120	120	120	120	120	120	121	121	121	122	122	124	124	120	120	119	119	119	118	118	118
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	14		159		157	157	158	157	158	158	158	160	156	156	158	157	157	158	158	159	160	162	167	172	172	158	155	154	154	153	152	152	151
California Ave Off Ramp to California Ave On Ramp	15		172		171	171	171	171	172	172	171	173	169	170	171	171	170	171	171	173	173	176	181	186			168	167	167	166		165	165
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	18		201		200	199	200	200	200	200	200	202	198	199	200	199	199	199	200	202	203	207	211	217	218	200	196	195	195	194	194	193	193
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	22		241		240	239	240	240	241	240	240	242	238	239	240	239	239	239	240	242	243	247	251	257				235		234		233	233
SR58 WB On Ramp to Real Rd On Ramp	22		246		245	244	245	245	245	245	245	247	243	244	245	244	244	244	245	247	248	252	256	262			241	240				238	238
Real Rd On Ramp to Ming Ave Off Ramp	24		269		268	268	268	268	269	268	268	270	267	267	269	268	268	268	268	270	272	275	280	285			265					261	261
Ming Ave Off Ramp to Ming Ave On Ramp	27		304		303	302	303	303	303	303	303	305	301	302	303	302	302	302	303	305	306	310	315	320			299	298	298	297		295	296
Ming Ave On Ramp to White Ln Off Ramp	33		364		363	363	363	364	364	363	363	365	362	362	364	363	362	363	363	365	367	371	376	382				358	357			354	355
White Ln Off Ramp to White Ln Loop On Ramp	35		384		382	382	382	383	383	382	383	385	381	381	383	382	381	382	382	384	387	390	395	401			378					373	374
White Ln Loop On Ramp to White Ln Direct On Ramp	36		393		392	392	392	392	393	392	392	394	391	391	393	391	391	391	392	394	396	400	405	411								383	384
White Ln Direct On Ramp to SR99 SB south end of the network	41		445		444	444	444	444	445	444	444	446	442	443	444	443	443	443	444	446	448	452	457	462								435	435
% Difference against Free Flo	)w -	8%	8%	8%	7%	7%	7%		8% 8				7%	7%	8%	7%	7%	7%	8%	8%	9%	9%	11%	12%	13%	7%	6%	6%	6%	6%	6%		5%
SR58 EB Mainline			-11																														
SR58 west end of the network to SR99 On Ramp	3	7 43	44	44	44	44	44	44	44	44	44	44	44	44	43	44	44	44	44	45	45	46	46	47	47	44	43	43	43	42	42	42	42
SR99 On Ramp to H St Off Ramp	4		54	54	55	54	54	55	55	54	54	54	55	54	54	54	54	55	54	56	56	56	56	57	58	54	54	53	53	52	53	52	52
H St Off Ramp to Chester Ave On Ramp	8	0 92	92	91	93	92	92	92	92	92	93	92	92	92	91	92	91	93	92	94	94	94	95	99	97	92	91	91	90	90	89	90	89
Chester Ave On Ramp to Union Ave Off Ramp	10	6 122	123	121	124	122	123	123	123	123	124	123	123	122	122	122	121	124	122	125	126	128	128	139	135	122	. 121	120	119	119	119	118	117
Union Ave Off Ramp to Union Ave Loop On Ramp	12		140		141	140	140	140	140	140	141	140	140	140	139	140	138	141	139	142	143	145	145	157			138					135	134
Union Ave Loop On Ramp to Union Ave Direct On Ramp	130		148		150	148	149	148	148	148	149	148	149	148	147	148	147	149	148	151	152	154	154	166								143	143
Union Ave Direct On Ramp to SR58 east end of the network	19		223		224	223	223	223	223	223	224	223	223	223	222	223	221	224	223	226	227	229	229	242								217	216
% Difference against Free Flo		12%	12%	12%	13%	12%			12% 17					12%	12%	12%	12%				14%	15%	16%	22%	20%	12%	11%	11%	10%	10%	10%		9%
SR58 WB Mainline									_		-																						
SR58 east end of the network to Brundage Ln Off Ramp	65	5 68	69	69	69	70	68	69	68	68	68	69	68	68	68	68	68	68	68	68	68	69	69	69	70	68	68	68	68	68	68	67	67
Brundage Ln Off Ramp to Brundage Ln On Ramp	8:		86	86	86	87	86	86	86	86	86	86	85	86	85	85	85	86	85	85	86	86	86	87	87	85	85	85	85	85	85	84	85
Brundage Ln On Ramp to Union Ave On Ramp	93		98	99	99	100	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	99	99	99	100	98	97	97	97	97	97	97	97
Union Ave On Ramp to Chester Ave Off Ramp	114		122	123	123	124	122	123	122	122	122	122	122	122	122	122	122	122	122	122	123	124	124	124			121	121	121	121	121	120	120
Chester Ave Off Ramp to H St On Ramp	152		162		162	164	162	163	162	162	162	162	162	162	162	162	161	162	162	162	162	164	164	164			161					160	160
H St On Ramp to SR99 NB Off Ramp	176		190		191	192	190	191	190	190	190	191	190	190	190	190	189	190	190	190	191	193	193	194								187	187
SR99 NB Off Ramp to SR99 SB Off Ramp	199		217		217	219	217	218	216	216	217	218	217	217	217	217	216	216	216	217	218	220	220	221									213
% Difference against Free Flo	E-CONTROL CONTROL 0%	9%	10%	9%	10%	9%		9% 9				9%	9%	9%	9%	9%		9%	9%	9%	10%	11%	11%	13%	9%	8%	8%	8%	8%			7%	
A Commission against 1160 Fig.								_ / -																									

CENTENNIAL EXISTING CONDITIONS: Calibration Hesuits Comparision - Cumulative Tra	avel Time (seconds)															selectea gi	obai parame	eter: CFS -3	30%, PCFC -:	30% (7 π), ne	ormai distrib	oution
										CFS	CFS	CFS	CFS	CFS	CFS	CFS						
		CFS	PCFC	+10%	+10%	+10%	+30%	-10%	-10%	-10%	-30%	-30%	-30%	-50%	-50%	-50%						
Freeway Segment		-90%	-10%	-20%	-30%	-40%	-50%	-60%	-70%	PCFC	PCFC	PCFC	PCFC	PCFC	POFC	PCFC						
										10%	-30%	-50%	-10%	10%	30%	-50%	-10%	-30%	-50%	-10%	30%	-50%
SR-99 NB Mainline										Normal	Normal	Normal	Normal	Normal	Normal	Normal	Nonnal	Normal	Normal	Normal	Normal	Normal
Ming Ave Off Ramp to Ming Ave On Ramp		181	202	202	200	204	191	194	194	206	202	202	293	192	190	186	186	184	183	182	181	18
Ming Ave On Ramp to Ning Ave On Hamp		197	223	223	221	225		215		227	222	223	314					202			198	19
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp		229	255	255	253	257	243	247	246	260	255	256	347	244		237		234			230	23
Wible Rd On Ramp to SR58 WB On Ramp		238	265	265	263	266	253	256	256	269	264	265	357	254		246		243			239	24
SR58.WB On Ramp to California Ave Off Ramp		273	302	301	299	303	290	293	292	307	302	302	395			282		279			275	27
California Ave Off Ramp to California Ave Loop On Ramp		290	319	317	316	319	306	310		323	319	319	417	306		298		295			291	29
California Ave Loop On Ramp to California Ave Direct On Ramp		299	328	327	325	329	315	319	318	334	328	328	440			307	310	305			300	30
California Ave Direct On Ramp to Rosedale Hwy Off Ramp		323	360	360	356	356	344	348	348	370	362	356	482	345		334		331			324	32
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp		339	376	376	372	372	360	364	364	387	379	373	499	361	358	350		347			340	34
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp		372	409	410	405	406	394	398	397	420	412	406	532	395	391	383	387	380	377	377	373	37
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp		405	443	444	439	440	428	431	431	455	446	440	567	429	425	417	421	413	410	410	407	40
Airport Dr Off Ramp to SR99 NB north end of the network		445	484	484	480	480	468	472	472	495	487	480	607	469	465	457	461	454	450	450	447	44
% D	Difference against Free Flow	8%	18%	18%	17%	17%	14%	15%	0	21%	19%	17%	48%	14%	13%	11%	12%	11%	10%	10%	9%	9%
SR-99 SB Maintine																						
SR99 SB north end of the network to Airport Dr On Ramp		48	48	48	48	48	48	48	48	48	48	48	48		48	48	48	48	48		48	4
Airport Dr On Ramp to Rosedale Hwy Off Ramp		80	81	82	81	81	81	81	81	81	82	81	83	81	81	81	81	81	81		81	8
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp		105	106	106	106	106	106	106	106	106	107	106	108	106	106	106	106	106			105	10
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp		118	120	120	120	120	120	119	120	120	120	120	122	120	120	120	120	120			119	11:
Rosedale Hwy Direct On Ramp to California Ave Off Ramp		151	156	158	157	156	156	155	155	158	158	157	163	157	155	155		153			152	15
California Ave Off Ramp to California Ave On Ramp		165	170	171	170	170	170	168	169	171	171	170	176	170		168	168	167	166		165	16
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp		192	199	200	199	198	198	197	197	200	200	199	206	199	197	196	196	195			194	19:
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp		232	239	240	239	238	238	237	238	240	240	239	246	239	238	236		235			234	23
SR58 WB On Ramp to Real Rd On Ramp		237	243	245	244	243	243	242	242	245	245	244	251	244	242	242	241	240			239	23 26
Real Rd On Ramp to Ming Ave Off Ramp		260	266	269	267	267	266	265	266	269	269	268	275	267	266 300	265	264 299	263	263 298		261 296	29
Ming Ave Off Ramp to Ming Ave On Ramp		294	301	304 364	301	301 362	301 361	300 360	300 361	303 364	303 364	302 363	310 371	302 362	361	299 359	359	297 357	358		355	35
Ming Ave On Ramp to White Ln Off Ramp		353	361 380	384	361		380				384		390	362	380	379	378	376		375	355 374	37
White Ln Off Ramp to White Ln Loop On Ramp		373 382	390	393	381 390	381 391	390	379 389	380 390	383 393	393	382 392	390	391	390	388	387	386	387	385	384	38
White Ln Loop On Ramp to White Ln Direct On Ramp White Ln Direct On Ramp to SR99 SB south end of the network		434	442	393 445	442	442	442	440	441	393 445	393 445	444	451	443	441	440	439	438	438	436	436	43
	ofference against Free Flow	5%	7%	8%	7%	7%	7%	7%	0 441	8%	8%	7%	9%	7%	7%	7%	6%	6%	6%	6%	6%	6%
SR58 EB Mainline	onerchic against tree flow	3/0	773	0,0	770	770	770	770	•	0,0	0,0	770	3,4	,,,	.,,	,,,,	5,0	0,0	0,0	0,0	0,0	
SR58 west end of the network to SR99 On Ramp		42	44	44	44	44	44	43	44	44	45	44	46	43	43	43	43	43	42	42	42	4.
SR99 On Ramp to H St Off Ramp		52	54	55	54	54	54	54	54	55	55	54	56	53	54	53	53	53	53	52	53	5
H St Off Ramp to Chester Ave On Ramp		89	92	92	92	92	91	92	91	92	93	92	95	91	91	91	90	90	90	89	90	90
Chester Ave On Ramp to Union Ave Off Ramp		117	122	122	122	122	121	122	121	123	124	122	128	120	121	121	119	119	119	118	119	118
Union Ave Off Ramp to Union Ave Loop On Ramp		134	140	139	139	139	138	139	138	140	141	139	146	137	138	138	136	136	136	135	136	135
Union Ave Loop On Ramp to Union Ave Direct On Ramp		143	148	148	148	148	147	148	147	149	150	148	154	146	147	146	145	144	145	143	144	144
Union Ave Direct On Ramp to SR58 east end of the network		216	223	222	222	222	221	223	221	223	224	222	229	220	221	220	219	218	219	217	218	217
% Di	ifference against Free Flow	9%	12%	12%	12%	12%	12%	12%	0	12%	13%	12%	15%	11%	11%	11%	10%	10%	10%	9%	10%	10%
SR58 WB Mainline																						
SR58 east end of the network to Brundage Ln Off Ramp		67	68	68	68	68	68	68	68	69	69	68	69	68	68	68	68	68	68	68	68	6
Brundage Ln Off Ramp to Brundage Ln On Ramp		84	85	85	85	85	85	85	85	86	86	86	86	86	85	85	85	85	85	85	85	8
Brundage Ln On Ramp to Union Ave On Ramp		96	98	98	98	98	98	98	98	98	98	98	99	98	97	98	97	97	97	97	97	9
Union Ave On Ramp to Chester Ave Off Ramp		120	122	122	122	122	121	121	122	123	123	122	124	122	121	122	121	121	121	121	121	12
Chester Ave Off Ramp to H St On Ramp		159	162	161	161	162	161	161	161	163	163	162	164	162	161	162	161	161	161	160	160	16
H St On Ramp to SR99 NB Off Ramp		187	190	189	189	190	189	189	189	191	191	189	193	190	189	189	188	188	188	187	187	187
SR99 NB Off Ramp to SR99 SB Off Ramp		213	216	216	216	216	216	216	216	218	218	216	220	216	215	216	215	215	215	214	214	214
Maria Maria	ifference against Free Flow	7%	9%	8%	8%	9%	8%	8%	9%	9%	10%	8%	10%	9%	8%	8%	8%	8%	8%	7%	7%	7%

## CENTENNIAL EXISTING CONDITIONS: Calibration Results Comparision - SPEED (MPH) CORSIM ANALYSIS RESULTS - PM PEAK

CONSIM ANALISIS NESOCIO-1 III CAR																				-													
																050 0		ore s		area .		rs .	CFS CFS		rs ci	FS C	FS .	CFS C	rs I	CFS C	FS	CFS	CFS
	F&P	Defaul																CFS C															-70%
Freeway Segment	Analysis	(Consta	nt Nor	rmal Erla	ngi km	angz   ti	ianga   Erk	ing4 t	Erlang5 Er	ange eru	ang/ E	rianga Eri	angs   -in	0+1,0   -5,1	0+2%   -3	M6+3%   -4%	+4% -5	3764576 - 676	+6% -7%	6+7% +	10% +2	0%	+30% +405	*   **	i0% +60	0%   -1	0% -	20%   -3I	0%	*4U% *3	50%	-60%	/V*
		neadwa	191																														
	-																	<u> </u>															
SR-99 NB Mainline																												54		64	64		
SR-99 NB south end of the network to White Ln Off Ramp	6			64	63	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64 63	64	64	64	64
White Ln Off Ramp to White Ln Loop On Ramp	6			63	63	63	63	63	63	63	63	63	63	63	63	63	64	63	63	63	63	63	63	63	63	63	63	63	05	63	63	63	64
White Ln Loop On Ramp to White Ln Direct On Ramp	l -	5	-	52	50	53	51	51	51	51	53	50	53	51	51	52	52	51	51	52	52	53	52	51	53	52	52	51	53	53	53	52	53
White Ln Direct On Ramp to Ming Ave Off Ramp	65	-		61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	60	60	60	60	61	61	61	61	61	62	62
Ming Ave Off Ramp to Ming Ave On Ramp	65		-	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	61	61	62	62	62	62	62	63	63
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	-	4	17	46	44	46	47	48	46	46	46	48	45	46	46	47	46	47	47	49	47	42	43	41	37	37	49	49	52	50	52	52	52
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	65	6	i3	62	63	63	63	63	63	63	63	63	63	63	63	63	63	62	62	62	63	62	62	62	62	56	63	63	63	63	63	63	63
Wible Rd On Ramp to SR58 WB On Ramp	-	5	9	59	59	59	59	59	60	59	59	59	60	59	59	59	59	59	59	59	59	59	59	59	59	27	59	59	59	59	59	60	60
SR58 WB On Ramp to California Ave Off Ramp	65	5 5	8	57	58	58	59	59	58	58	58	58	58	58	58	57	58	58	58	58	58	57	57	57	57	24	59	58	59	59	59	59	59
California Ave Off Ramp to California Ave Loop On Ramp	65	6	52	62	62	62	63	62	63	62	62	62	63	63	62	62	62	62	63	62	63	62	62	62	62	11	62	63	63	62	62	62	62
California Ave Loop On Ramp to California Ave Direct On Ramp	-	5.	55	57	54	55	55	55	56	56	53	55	56	56	56	56	56	56	56	56	55	55	54	53	39	9	56	55	56	57	57	57	57
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	65	5 5	1	52	51	51	51	51	51	51	46	51	52	52	50	50	51	51	52	52	49	48	46	43	39	21	53	53	55	55	56	57	57
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	-	6	52	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	61	61	61	62	63	63	62	63	63	63
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	65	6	3	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp		6	0	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	59	60	59	59	60	60	61	61	61	61	61	61
Airport Dr Off Ramp to SR99 NB north end of the network	65	6	i3	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
SR-99 SB Mainline																																	
SR99 SB north end of the network to Airport Dr On Ramp	65	6.	3	63	63	63	63	63	63	63	63	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	64	64	64	64	64	64
Airport Dr On Ramp to Rosedale Hwy Off Ramp	65	5 5	5	55	53	54	54	55	55	54	55	54	55	54	55	54	54	55	55	55	54	53	50	50	48	47	55	56	55	57	58	58	58
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	6	6		62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	61	57	50	33	29	62	62	62	62	62	62	62
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp		4:	.8	48	48	48	48	45	48	47	45	44	49	48	47	48	50	46	48	50	41	29	23	20	17	15	52	55	55	56	56	56	57
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	63	4	5	46	46	44	45	44	46	44	45	45	45	45	44	45	45	44	46	46	42	40	39	33	27	19	47	50	51	53	54	54	55
California Ave Off Ramp to California Ave On Ramp	65	5	2	52	56	61	56	56	50	56	61	60	61	59	57	57	59	55	60	55	43	44	35	21	15	13	58	61	61	61	61	62	62
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	63	4	4	43	44	48	45	45	43	45	46	47	46	45	44	47	47	45	47	44	41	41	40	40	40	40	48	50	52	54	53	56	57
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	65	62	2	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	61	61	61	62	62	62	63	63	63	63	63
SR58 WB On Ramp to Real Rd On Ramp		50	0	49	45	47	49	49	50	47	50	44	46	48	50	47	49	49	46	48	50	48	40	46	39	46	41	49	48	49	49	49	47
Real Rd On Ramp to Ming Ave Off Ramp		53	-	53	49	53	51	54	54	51	54	52	52	54	54	53	54	54	52	53	53	51	48	48	48	49	40	54	54	55	53	54	56
Ming Ave Off Ramp to Ming Ave On Ramp	65			63	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	57	62	62	63	63	63	62	62	63
Ming Ave On Ramp to White Ln Off Ramp	63			49	54	57	54	47	50	56	50	55	28	48	53	53	52	56	51	52	44	51	46	50	31	52	57	52	60	36	60	42	50
White Ln Off Ramp to White Ln Loop On Ramp	65			62	62	62	62	61	61	62	62	62	61	61	62	62	61	62	61	62	62	62	62	62	62	62	62	61	63	62	62	61	61
White Ln Loop On Ramp to White Ln Direct On Ramp	٠ °	62		62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62		62	62	62	62	62	62	62	62	62	62
White Ln Direct On Ramp to SR99 SB south end of the network	65			62	62	62	62	62	62	62	62	62	62	62	62	62	62	63	62	62	62	62		62	62	62	62	62	62	63	62	63	63
SR58 EB Mainline	03	. 02	-	J.L	UL.	JŁ	UL	UZ.	02	02	UZ.	02	02	02	02	UL.	U.L	03	JL	02	02	02	02		UL.	UL.	02	<i>52</i>	02	93	J.	55	0.3
SR58 west end of the network to SR99 On Ramp		55	5	54	55	55	55	54	55	55	55	55	55	54	55	55	55	55	55	55	54	54	54	53	52	52	55	55	56	56	56	57	56
SR99 On Ramp to H St Off Ramp	1	58		58	58	58	58	58	58	58	58	58	58	58	58	58	59	55 58	58	58	58	58	58	58	57	57	58	58	59	59	59	59	59
H St Off Ramp to Chester Ave On Ramp		. 60	-	60	60	60	60	60	60	60	60	60	60	60	90 20	60	60	60	60	50	60	59	59	59	59	58	60	60	60	61	61	61	61
Chester Ave On Ramp to Union Ave Off Ramp	61			55	56	56	56	56	56	55	56	56	55	56	56	57	56	56	56	56	55	54		53	51	49	57	56	58	58	59	59	59
Union Ave Off Ramp to Union Ave Loop On Ramp	61	61		61	61	61	61	61	61	55 61	61	61	61	61	61	61	61	61	61	61	61	61		61	60	59	61	61	61	62	61	62	62
Union Ave Loop On Ramp to Union Ave Direct On Ramp	04	58		58	58	58	58	58	58	57	58	58	58	57	58	59	58	58	57	58	58	58		58	57	56	58	59	57	59	59	59	59
	٠,				58 59		58 60	58 60	58 60	57 59	58 60	58 60	58 60	60	58 60	60	58 60	58 59	60	58 60	58 60	58 59		59	57 58	58	56 60	60	60	61	61	61	61
Union Ave Direct On Ramp to SR58 east end of the network	61	ы	U	שכ	<b>ン</b> グ	60	ου	DU	טס	צכ	טט	DU	טס	טס	UU	טס	DU	לכ	υU	OU	OU	צכ	צכ	בנ	<b>J</b> 6	<b>J</b> 0	00	OU	00	0.1	01	01	01
SR58 WB Mainline	٠.		2	C3	C3	62	<b>C</b> 3	C	C3	C3	62	62	62	62	C)	63	62	62	62	63	c a	62	63	62	C1	61	62	62	62	62	63	63	63
SR58 east end of the network to Brundage Ln Off Ramp	64	62	4	62	62		62	62	62	62	62				62	62				62	62		62		01	91	62	62		63			
Brundage Ln Off Ramp to Brundage Ln On Ramp	65	61	1	61	61	61	62	61	61	61	61	61	62	61	61	61	61	62	61	61	61	61		61	91	60	61	62	61	62	62	62	62
Brundage Ln On Ramp to Union Ave On Ramp	l -	59	_	59	58	58	59	58	58	59	59	59	59	59	59	59	59	59	58	59	58	58		58	58	57	59	59	59	60	60	60	60
Union Ave On Ramp to Chester Ave Off Ramp	l -	57	7	57	57	57	57	57	56	56	57	56	57	57	57	56	56	57	56	57	56	55		53	53	51	57	58	58	58	58	59	59
Chester Ave Off Ramp to H St On Ramp	65	61	1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61		61	60	59	61	61	61	62	62	62	62
H St On Ramp to SR99 NB Off Ramp	63				56	55	56	55	55	56	56	56	57	56	56	55	56	56	55	56	55	54		54	51	51	56	57	57	58	58	58	58
SR99 NB Off Ramp to SR99 SB Off Ramp	65	57	7	57	57	57	57	57	56	57	57	57	57	57	57	57	57	57	57	57	57	56	56	56	56	56	57	57	57	57	57	57	57

CORSIM ANALYSIS RESULTS - PM PEAK														***************************************	****						
										CFS	CFS	CFS	CFS CFS		CFS			CFS			CFS
	CFS	CFS	PCFC	PCFC	PCFC	PCFC	POFC	PCFC	PCFC	+10%	+10%	+10%	+30% -10%		-10%			-30%			50%
Freeway Segment	-80%	-90%	-10%	-20%	-30%	-40%	-50%	-60%	-70%	PCPC	PCPC	PCFC	PCFC PCF		POFC			PCFC			CFC
										-10%	-30%	-50%	-10% -10%		-50%			-50%			50%
										Normal	Normal	Normal	Normal Norm	al Norma	Norma	i Nori	nai Normal	Normal	Normal No	rmal No	ormal
SR-99 NB Mainline																					
SR-99 NB south end of the network to White Ln Off Ramp	64	64	64	64	64		64	64		64	64	64	64			64	64 64		64	64	64
White Ln Off Ramp to White Ln Loop On Ramp	63	64	63	63	63		63	63		63	63	63	63			63	63 63		63	63	63
White Ln Loop On Ramp to White Ln Direct On Ramp	54	52	53	53	52		53	53		52	52	51	53			51	53 53		53	52	54
White Ln Direct On Ramp to Ming Ave Off Ramp	62	62	61	61	61		61	61		61	61	61	61			61	61 61		61	62	62
Ming Ave Off Ramp to Ming Ave On Ramp	62	63	62	62	62		62	62		62	62	62	62			62	62 62		62	63 53	62
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	54 63	53	45	46	50		48	49		47	48	47	41			50	50 51		52 63	63	53
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	1	63	62	62	63	63	62	62		63	63	62	62			63	63 63				63
Wible Rd On Ramp to SR58 WB On Ramp	60	60	59	59	59		59	59		59	59	59	59			59 50	59 59		59	59	59 59
SR58 WB On Ramp to California Ave Off Ramp	59	60	58	58	59		58	58		58	58	59	57			58	59 58		59 62	59 62	23
California Ave Off Ramp to California Ave Loop On Ramp	62 57	62 58	62	62 56	63 56	63 57	62 56	62	63 57	62 54	62	62	62			63 56	63 62 57 57		57	52 58	63 57
California Ave Loop On Ramp to California Ave Direct On Ramp	1		55					55			56	56	54				***********				
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	57	57	51	53	52		53	52		50	52	52	45			52	56 56 63 63		55 62	56 63	57
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	63	63	62	62	62	62	62	. 62	63	62	62	62	61			62					63 63
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	63	63	63	63	63		63	63	63	63	63	63	63			63	63 63		63	63	
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp	61	61	60	60	60	60	60	61		60	60	60	59			60	61 61		61	61 63	61 63
Airport Dr Off Ramp to SR99 NB north end of the network	64	63	63	63	63	63	63	63	63	63	63	63	63	63 6	i3	63	63 63	63	63	63	63
SR-99 SB Mainline	64	64	63	C 4	64	63	<b></b>	C A	C4	<b>63</b>	63	63	63	<b>63</b> (	i3	64	64 64	64	64	64	CA
SR99 SB north end of the network to Airport Dr On Ramp			63	64			64	64		63	63	63								57	64 58
Airport Dr On Ramp to Rosedale Hwy Off Ramp Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	58 62	58 62	55 62	55 62	55 62	55 62	55	56 62		54 62	54 62	54 62	50 56			55 62	56 56 62 62		56 62	62	62
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	58	57	53	54	55	54	62 54	54	62 54	45	49	50	21			55	54 56		55	57	57
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	1		46	54 47	55 47	47	48				49 45	45				50			55 54	57 55	55
California Ave Off Ramp to California Ave On Ramp	56 62	56 61	4 <del>0</del> 59	47 58	61	61	61	48 60	48 60	43 58	45 59	45 60	33 22			61	51 53 60 61	61	60	62	55
California Ave On Plamp to SR58 EB/Stockdale Hwy Off Ramp	57	57	44	48	48	49	51	47	49	45	45	45	41			51	52 51		52	54	62 56
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	63	63	62	62	62	63	62	63	63	62	62	62	61			63	63 63		63	62	63
SR58 WB On Ramp to Real Rd On Ramp	48	48	49	50	34	47	47	50	49	43	43	50	48			48	47 47	48	45	49	47
Real Rd On Ramp to Ming Ave Off Ramp	57	56	55	54	37	50	54	55	54	45	49	53	52			54	54 55		55	54	53
Ming Ave Off Ramp to Ming Ave On Ramp	63	63	63	62	62	62	62	63	63	62	62	62	62			62	63 63		63	62	62
Ming Ave On Ramp to White Ln Off Ramp	50	61	55	58	55	55	50	58	58	54	45	44	30			50	47 46	48	53	56	59
White Ln Off Ramp to White Ln Loop On Ramp	62	63	62	63	62	62	61	62	63	62	61	61	61			61	61 62	61	62	62	62
White Ln Loop On Ramp to White Ln Direct On Ramp	62	62	62	62	62	62	62	62	62	62	62	61	62			61	62 62		62	62	62
White Ln Direct On Ramp to SR99 SB south end of the network	63	62	62	62	63	62	62	62	62	62	62	62	62			62	62 63		62	63	63
SR58 EB Mainline	-					52			0.2	52	52	02	02		_						
SR58 west end of the network to SR99 On Ramp	56	56	54	55	55	55	55	55	55	55	55	55	54	55 5	5	55	56 55	56	56	56	56
SR99 On Ramp to H St Off Ramp	59	59	57	58	58	58	58	58	58	58	58	58	58			59	59 59	59	59	58	59
H St Off Ramp to Chester Ave On Ramp	61	61	59	60	60	60	60	60	60	60	60	60	60			61	60 61	61	60	61	61
Chester Ave On Ramp to Union Ave Off Ramp	59	59	55	56	56	56	56	56	57	55	55	55	53			57	58 58	58	58	59	59
Union Ave Off Ramp to Union Ave Loop On Ramp	61	61	61	61	61	61	61	61	61	61	61	61				62	61 61		61	61	62
Union Ave Loop On Ramp to Union Ave Direct On Ramp	59	59	58	58	58	59	58	58	57	58	57	58	58			59	58 59	60	59	60	60
Union Ave Direct On Ramp to SR58 east end of the network	61	61	60	60	60	60	60	60	60	59	60	59	59			60	60 60	60	60	61	61
SR58 WB Mainline																					
SR58 east end of the network to Brundage Ln Off Ramp	63	63	62	62	62	62	62	62	62	62	62	62	62	62 6	2	62	62 63	63	63	63	63
Brundage Ln Off Ramp to Brundage Ln On Ramp	62	62	62	62	61	61	61	62	62	61	61	61	61			62	62 62	62	62	62	62
Brundage Ln On Ramp to Union Ave On Ramp	60	61	59	59	59	58	59	59	59	59	59	58	58			60	60 59	59	60	60	60
Union Ave On Ramp to Chester Ave Off Ramp	59	59	57	57	57	57	57	57	57	57	56	56	56			58	58 58	58	59	59	59
Chester Ave Off Ramp to H St On Ramp	62	62	61	61	61	61	61	61	61	61	61	61		61 6		61	62 61	62	61	62	62
H St On Ramp to SR99 NB Off Ramp	59	59	57	57	56	57	57	56	56	56	55	56	54	56 5		57	57 57	58	58	58	57
SR99 NB Off Ramp to SR99 SB Off Ramp	57	57	57	57	57	57	57	57	57	57	57	56	57			57	57 57		57	57	57
	L														<u></u>						

## CENTENNIAL EXISTING CONDITIONS: Calibration Results Comparision - Density (Vehicle/Lane/Mile) CORSIM ANALYSIS RESULTS - PM PEAK

CONSIM ANALYSIS RESULTS - PM PEAK																															
Freeway Segment	F&P Analysis	Default (Constant Headway)	lormal	Erlang1	Erlang2	Erlang3	Erlang4 Er	tang5 E	rlang6 Erla	Erta	ing8 Erla	CF ing9 -1*6+				FS CF6		CFS -7%+7%	CF9 +10%	CFS +28%	CFS +30%	CFS +40%	CFS +50%	CF8 +60%	CF9 -10%	CFS -20%		CFS -40%	CFS -50%		CFS -70%
SR-99 NB Mainline	+				L							<u> </u>													لسسا			1	<u> </u>		
SR-99 NB south end of the network to White Ln Off Ramp	15	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13 1	13 13	13	13	13	13	13	13	13		13 13	13	13	13	13
White Ln Off Ramp to White Ln Loop On Ramp	13	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11 1	11 11	11	11	11	11	11	11	1 11		11 11		11	11	11
White Ln Loop On Ramp to White Ln Direct On Ramp		18	18	18	17	18	18	18	18	17	19	17	18	18	18	18		18 18	17	17	18	18	17	18	3 18		18 17	17	18	18	17
White Ln Direct On Ramp to Ming Ave Off Ramp	22	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19 1	19 19	19	19	19	19	19	19	19		19 19	19	19	19	19
Ming Ave Off Ramp to Ming Ave On Ramp	15	13	13	13	14	13	13	13	14	13	14	13	14	14	14	13	14 1	13 13	13	13	13	13	14	14	1 13		14 13	13	13	13	13
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp		22	22	23	22	21	20	22	22	22	21	22	22	22	21	22	21 2	22 20	21	24	24	24	27	27	7 20		21 19	20	19	19	19
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	14	13	12	13	12	13	12	12	12	13	13	12	13	13	12	12	13 1	12 13	12	12	12	13	13	14	1 13		12 13	12	12	12	13
Wible Rd On Ramp to SR58 WB On Ramp	1 -	15	14	14	14	15	14	14	14	15	14	14	15	15	14	14	15 1	14 14	14	14	14	15	14	27	7 14		14 15	14	15	14	15
SR58 WB On Ramp to California Ave Off Ramp	21	21	21	20	20	20	20	20	20	21	20	20	20	21	21	20	21 2	20 21	20	20	21	21	21	43	3 20		20 20	20	20	20	20
California Ave Off Ramp to California Ave Loop On Ramp	18	17	16	17	16	17	17	17	16	17	17	16	17	16	17	16	17 1	16 17	16	16	16	16	16	80	16		16 16	16	17	17	16
California Ave Loop On Ramp to California Ave Direct On Ramp	-	20	19	20	19	20	20	19	19	20	20	19	19	19	19	19	19 1	19 20	19	19	19	20	27	84	19		19 19	19	19	19	19
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	22	24	22	23	23	23	24	23	23	26	23	22	23	23	23	23	24 2	22 23	24	24	25	27	30	44	22		22 21	. 21	21	21	20
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	-	13	13	13	13	13	13	13	13	12	13	12	13	13	13	13	13 1	12 13	12	13	13	13	13	10	12		13 13	12	13	13	12
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	14	11	11	12	11	11	12	11	11	11	12	11	11	11	11	11	11 1	1 12	11	11	11	12	12	9	11		11 12	11	11	11	11
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp		14	14	14	13	13	14	13	13	13	14	13	13	13	14	13	14 1	13 14	13	14	13	14	14	11	13		13 14	13	13	13	13
Airport Dr Off Ramp to SR99 NB north end of the network	14	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10 1	10 10	9	10	10	10	10	8	, 9		9 10	10	10	10	10
SR-99 SB Mainline																															
SR99 SB north end of the network to Airport Dr On Ramp	20		17	17	17	17	17	17	17	17	17	17	17	17	17	17	17 1	7 17	17	17	17	17	17	17	17		17 17	17	17	17	17
Airport Dr On Ramp to Rosedale Hwy Off Ramp	23		22	23	22	22	22	22	22	22	22	22	23	22	22		22 2	22 22	22	23	24	25	26	26	5 22		22 22	21	21	21	21
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	20	18	17	18	17	17	17	17	18	17	17	18	17	17	17	17	17 1	.7 17	17	18	: 19	21	32	36	17		17 17	17	17	17	17
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp		26	26	26	26	26	28	26	26	28	28	26	26	26	26	25	27 2	.6 25	31	43	54	62	69	74	24		23 23	22	23	22	22
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	31	37	36	36	37	36	38	36	37	37	37	37	37	37	37	36	37 3	6 36	39	42	43	48	55	69	35		33 32	. 31	30	30	30
California Ave Off Ramp to California Ave On Ramp	25	27	27	25	23	25	25	29	25	23	23	23	24	25	24	24	25 2	4 26	33	32	39	63	88	90	24	:	23 23	23	23	23	23
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	29	37	37	37	32	35	36	38	36	34	34	34	35	36	34	33	35 3	4 36	40	40	40	41	40	37	33		32 30	29	29	28	28
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	20	18	18	18	18	18	18	18	18	18	19	18	18	18	18	18	18 1	.8 18	18	18	19	18	18	16	19	:	18 18	18	18	18	18
SR58 WB On Ramp to Real Rd On Ramp		23	23	25	24	23	23	23	24	23	26	25	24	23	25	24	23 2	.5 24	23	24	28	24	28	22	. 28	:	24 24	24	23	23	24
Real Rd On Ramp to Ming Ave Off Ramp	-	26	26	28	26	27	25	26	27	25	27	27	26	26	27	26	25 2	7 26	26	27	29	27	28	25	35	. :	26 26	25	26	26	25
Ming Ave Off Ramp to Ming Ave On Ramp	20	18	17	18	17	17	18	18	17	17	18	18	18	18	18	18	17 1		18	18	17	17	18	16	17	:	18 17		17	18	18
Ming Ave On Ramp to White Ln Off Ramp	31	25	30	26	25	27	33	30	25	28	26	56	32	27	28	28	25 2	9 28	33	29	32	29	47	25	25	:	29 24	44	23	40	32
White Ln Off Ramp to White Ln Loop On Ramp	18	15	15	16	15	15	15	16	15	15	16	15	15	15	15		15 1		15	16	15	15	14	14	15	:	15 16		15	15	15
White Ln Loop On Ramp to White Ln Direct On Ramp		15	14	15	14	14	14	15	15	14	15	14	14	14	14		14 1		14	15		14	13	13			14 15		14	14	14
White Ln Direct On Ramp to SR99 SB south end of the network	191	16	15	16	16	16	16	16	16	15	16	15	16	16	16	16	16 1	6 16	15	16	16	15	14	15	15		16 16	15	16	15	16
SR58 EB Mainline																															
SR58 west end of the network to SR99 On Ramp	l -	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8 8	8	8	8	8	8	8	8		8 8	8	8	8	8
SR99 On Ramp to H St Off Ramp	-	20	20	20	19	19	19	20	20	19	19	20	20	20	20		20 2		20	20	20	19	19	19			20 19	19	19	19	20
H St Off Ramp to Chester Ave On Ramp	27	21	22	21	21	21	21	21	22	21	21	21	21	21	21	21	21 2		21	22	21	21	21	20	21	- 7	22 21	20	21	21	21
Chester Ave On Ramp to Union Ave Off Ramp	34	31	32	31	31	30	31	31	32	30	30	31	31	31	30	30	31 3		31	32	32	32	32	33	30		32 30		29	29	29
Union Ave Off Ramp to Union Ave Loop On Ramp	27	25	26	25	25	25	25	25	26	25	25	25	25	25	25		25 2		25	25	25	25	24	25			26 25		25	25	25
Union Ave Loop On Ramp to Union Ave Direct On Ramp		24	24	24	23	23	23	23	24	23	23	23	24	23	23		23 2		23	24	24	23	23	23			24 24		23	23	23
Union Ave Direct On Ramp to SR58 east end of the network	33	29	29	29	29	29	29	28	29	29	28	29	29	29	28	28	28 2	9 29	29	29	29	28	28	28	28		29 28	27	28	28	28
SR58 WB Mainline																															
SR58 east end of the network to Brundage Ln Off Ramp	27		25	25	25	25	25	25	25	25	25	25	25	25	25		25 2		25	25	25	25	25	25		-	25 25		24	24	24
Brundage Ln Off Ramp to Brundage Ln On Ramp	24	23	22	22	22	22	22	22	22	22	22	22	22	22	22		22 2		22	22		22	22	23			22 22		22	22	22
Brundage Ln On Ramp to Union Ave On Ramp		22	22	22	22	22	23	22	22	22	22	22	22	22	22		22 2		22	22	22	22	22	23		2	22 22		22	22	21
Union Ave On Ramp to Chester Ave Off Ramp		27	27	27	27	27	27	27	27	27	27	27	26	27	27	27	27 2		27	27	28	28	28	30	27	2	27 26	26	26	26	26
Chester Ave Off Ramp to H St On Ramp	25	24	23	23	23	23	24	23	23	23	23	23	23	23	24		23 2		23	23	23	23	23	24			23 23		23	23	23
H St On Ramp to SR99 NB Off Ramp	29		28	28	28	28	29	28	28	28	28	27	28	28	28		28 2		28	28	29	28	30	30		2			27	27	26
SR99 NB Off Ramp to SR99 SB Off Ramp	19	20	19	19	20	20	19	19	20	19	20	19	19	19	20	19	20 2	0 19	19	19	19	19	20	20	19	1	19 20	20	19	19	19

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CORSIM ANALYSIS RESULTS - PM PEAK															301	cerea gior	sai parame		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	70 (1 11), 110	ormal discribation	
										CFS	CFS	CFS	CF9	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS C	-8
	CFS	CFS	PCFC	POFC	PCFC	PCFC	PCFC   1	PCFG   I	PCFC			+10%	+30%	-10%		-10%	-30%	-30%	-30%	-50%		r.
Freeway Segment	-80%	-90%	-10%	-20%	-30%	-40%	-50%	-60%	-70%				PCFC	PCFC		POFC	PCFC	PCFC	PCFC	PCFC		FC
										-10%	-30%	-50%	-10%	-10%	-30%	-50%	-10%	-30%	-50%	-10%	-30% -50	
										Normal I	Normai t	tormal   f	Vormal	Normal	Normal N	ormal	Normal	Normal	Normal	Normal	Normal Nor	ma
SR-99 NB Mainline																						
SR-99 NB south end of the network to White Ln Off Ramp	13					13		13	13	13	13	13	13	13		13	13	13	13	13		1
White Ln Off Ramp to White Ln Loop On Ramp	11				11	11		11	11	11	11	11	11	11		11	11	11	11	11	11	1
White Ln Loop On Ramp to White Ln Direct On Ramp	17	17			18	18		17	18	18	17	18	17	18		18	17	17	17	17	18	1
White Ln Direct On Ramp to Ming Ave Off Ramp	18	19				19		19	19	19	19	19	19	19		19	19	19	19	19		1
Ming Ave Off Ramp to Ming Ave On Ramp	13	13			14	14		14	13	13	13	13	14	13		13	13	13	13	13	13	1
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	19	19			20	21		21	20	21	21	22	24	20		20	20	20	19	19	19	1
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	12				12	13		12	12	12	12	12	13	13		13	12	12	13	12	13	1
Wible Rd On Ramp to SR58 WB On Ramp	14	15			14	15		15	14	14	15	14	15	15		15	14	14	15	15	15	1
SR58 WB On Ramp to California Ave Off Ramp	20 16	20 17			20	21		20	20	20	20	20	21	20		20	20	20	20	20	20	3
California Ave Off Ramp to California Ave Loop On Ramp					16	17	17	16	16	16	16	16	17	17	16	17	16	16	17	16	16	1
California Ave Loop On Ramp to California Ave Direct On Ramp	19	19	20		19	19		19	18	19	19	19	20	19		19	19	18	19	19	19	1
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	21				22	23		23	22	23	22	22	26	23		23	21	20	22	21	21	2
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	12	13 11			13	13	13	13	12	12	13	13	13	13	13	13	13	13	13	13	12	1
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp  Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp	11				11 13	12	12 14	11 13	11 13	11 13	11 14	11	12	12		11	11	11 13	11 14	11	11	1
Airport Dr Off Ramp to SR99 NB north end of the network	13 10				10	14 10	10	10	10	10	14 10	14 10	14 10	14 10	13 10	13 10	13 10	10	14	13 10	13 10	1
SR-99 SB Mainline	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
SR99 SB north end of the network to Airport Dr On Ramp	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	1
Airport Dr On Ramp to Rosedale Hwy Off Ramp	21				22	22		22	22	23	22	23	25	22	22	22	22	22	21	22	21	2
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	17				17	17	17	17	17	17	17	18	19	17	17	17	17	17	17	18	17	1
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	21		24	23	22	23	23	23	23	28	25	25	58	24	22	22	23	22	22	23	22	2
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	29		35		35	34	34	34	34	38	36	37	49	35	33	33	32	31	31	30	29	2
California Ave Off Ramp to California Ave On Ramp	23		24		23	23	23	24	23	24	24	24	63	24	24	23	23	23	23	24	23	2
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	27	28	36	33	32	32	30	34	31	35	36	36	41	32	34	30	30	31	29	30	29	2
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	18		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	1
SR58 WB On Ramp to Real Rd On Ramp	24	24	23	23	33	24	25	23	23	27	27	23	24	25	23	24	24	24	24	26	23	2
Real Rd On Ramp to Ming Ave Off Ramp	24	25	25	26	37	27	26	25	25	31	28	26	26	27	25	26	25	25	25	26	25	2
Ming Ave Off Ramp to Ming Ave On Ramp	17	17	18	17	17	17	18	17	17	18	18	17	17	18	17	18	17	17	17	18	18	1
Ming Ave On Ramp to White Ln Off Ramp	31	23	26	24	25	26	31	24	24	26	35	36	48	39	24	32	33	33	32	28	26	2
White Ln Off Ramp to White Ln Loop On Ramp	15	15	15	15	15	15	16	15	15	15	15	15	14	15	15	16	15	15	15	16	15	1
White Ln Loop On Ramp to White Ln Direct On Ramp	14	15	14	15	14	14	15	14	14	14	14	14	13	14	14	15	14	14	14	15	15	1
White Ln Direct On Ramp to SR99 SB south end of the network	16	16	16	16	15	16	16	16	16	16	16	16	15	16	16	16	15	15	15	16	16	1
SR58 EB Mainline																						
SR58 west end of the network to SR99 On Ramp	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
SR99 On Ramp to H St Off Ramp	20	20	20	20	20	20	19	20	20	20	20	20	19	20	20	19	20	20	19	20	20	2
H St Off Ramp to Chester Ave On Ramp	21	21	22	21	22	21	21	22	21	22	21	22	21	21	22	21	21	22	21	22	21	2
Chester Ave On Ramp to Union Ave Off Ramp	30	29	31	31	31	31	30	31	30	31	31	32	31	30	31	30	30	31	29	30	30	2
Union Ave Off Ramp to Union Ave Loop On Ramp	26	25	25	25	25	26	25	25	25	25	25	26	25	25	26	24	25	25	25	26	25	2
Union Ave Loop On Ramp to Union Ave Direct On Ramp	24	23	23	23	24	23	23	24	24	23	23	24	23	23	24	23	23	23	23	24	23	2
Union Ave Direct On Ramp to SR58 east end of the network	29	28	29	28	29	29	28	29	29	29	28	29	28	28	29	28	28	29	28	29	28	2
SR58 WB Mainline										4.0												
SR58 east end of the network to Brundage Ln Off Ramp	24		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	2
Brundage Ln Off Ramp to Brundage Ln On Ramp	22	22	22	22	22	22	22	22	22	22	22	23	22	22	22	22	22	22	22	22	22	2
Brundage Ln On Ramp to Union Ave On Ramp	21	21	22	22	22	22	22	22	22	22	22	22	22	22	22	21	21	22	22	21	21	2
Union Ave On Ramp to Chester Ave Off Ramp	26	26	27	27	27	27	27	27	27	27	27	27	27	27	27	26	26	27	26	26	26	2
Chester Ave Off Ramp to H St On Ramp	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	2
H St On Ramp to SR99 NB Off Ramp	27	26	27	27	28	28	28	28	28	28	28	28	29	28	27	27	27	28	27	27	27	
SR99 NB Off Ramp to SR99 SB Off Ramp	19	19	19	19	20	19	20	20	20	20	20	20	19	19	19	19	20	20	19	20	19	19

## CENTENNIAL EXISTING CONDITIONS: Calibration Results Comparision - Level of Service (LOS) HCM 2000 Criteria CORSIM ANALYSIS RESULTS - PM PEAK

CORSIM ANALYSIS RESULTS - PM PEAK																											
		Default							CF9	CFS	CFS CFS	s CFS	CFS	CFS	CFS CF	s CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	crs c	FS CFS
Freeway Segment	F&P		Normal Erlanes	Erlang2 Erlang	3 Erland4 Er	rland5 Erlan	a6 Erland? Er	rland8 Erland9	1.15.15.	214-25	35.35	4% -5%-5%								-10%	-20%	-30%					on. 90%
	Analys	Headway)																									
SR-99 NB Mainline																											
SR-99 NB south end of the network to White Ln Off Ramp	В	В	В В	В В	В В	В	В В	В	В В	В	В	В	В	В В	В	В	В	В	В	В	В Е	3 E	В В	В	В	В	В
White Ln Off Ramp to White Ln Loop On Ramp	В	В	В В	В В	в в	В	в в	Α	в в	В	Α	В	В	В В	Α	В	В	В	В	В	В Е	3 A	4 В	В	В	Α	Α
White Ln Loop On Ramp to White Ln Direct On Ramp	- 1 -	В	В В	в с	с с	С	в с	В	в с	: В	В	В	С	в в	В	В	В	В	В	В	В Е	3 E	3 В	В	В	В	В
White Ln Direct On Ramp to Ming Ave Off Ramp	С	С	с с	с с	с с	С	с с	С	с с	С С	С	С	С	с с	С	С	С	С	С	С	С (		с с	С	С	С	С
Ming Ave Off Ramp to Ming Ave On Ramp	В	В	ВВ	В В	в в	В	В В	В	в в	В	В	В	В	В В	В	В	В	В	В	В	В Е	3 8	3 В	В	В	В	В
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp		C	C C	C C	С С	C	С С	C	С С	: C	C	C	C	c c	C	C	C	D	D	C				C	C	C	C
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	В	В	в в	в в	в в	В	в в	В	в в	В	В	В	В	в в	В	В	В	В	В	В	B E	3 5	3 B	В	В	В	В
Wible Rd On Ramp to SR58 WB On Ramp	-	В	в в	ВВ	в в	В	в в	В	в в	В	В	В	В	в в	В	В	В	В	5	В	В 1	3 5	з в	В	В	В	В
SR58 WB On Ramp to California Ave Off Ramp California Ave Off Ramp to California Ave Loop On Ramp	СВ	C				C		C			C	C	C		C	C	C							C	C	C	C
	_	В	R . R	в в	в в	В	В В	В	в в	В	В	В	В	в в	В	В	В	В	-	R	6 6			В	В	8	В
California Ave Loop On Ramp to California Ave Direct On Ramp California Ave Direct On Ramp to Rosedale Hwy Off Ramp	- c	C				C		C C			C	C	C		C	C		ט	r c	C					C	C	C
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	1							C B									D	ט	Δ.					L n	L D	L .	
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	В	D	0 0	D D	D B		0 8	b 0	p B	. в	B		٥	D 4		D D	D D	D	A .	D D	p 5	2 1	, ,	В	В	D B	D D
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp	_ B	В	B B	в в	в в	В	B B	В	B B	. B	В		A	B A		D D	B D	B	A .	D D	D 0	, ,	, ,	D		D	B D
Airport Dr Off Ramp to SR99 NB north end of the network	В		Λ Λ	Δ Δ	Λ Λ	۸	A A	Δ	۸ ۸		Δ	۸	Δ	۸ ۸	۸	۸	٨	٨	^	٨	Λ /		۸ ۸	۸	۸	۸	٨
SR-99 SB Mainline	P	Α	A A	A A	A A	А	A A	А	A A		А	Α	М	A A	Α	А	A	М	Α	Α	^ ^	`	1 A	^	, A	А	^
SR99 SB north end of the network to Airport Dr On Ramp	С	D.	D D		D D	D		D		D		D	D.			D	D.	D.	Q.	D.	Q 5	2 0	2 D	B	R	D.	В
Airport Dr On Ramp to Rosedale Hwy Off Ramp	Č	Č				Č		Č		,	C	C	C		Č		C	C	ח	C			, ,	Č	Č	Č	Č
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	c	R	R R	R R	RR	R	R R	R	R R	. R	R	R	B	R R	R	Č	C	D	F	R	R F		R R	B	R	R	B
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	1 .	D		D C	ם ס	D D	ם ם	Ç	C D		Č	D	r	C D	F	F	F	F	F	C				Č	Č	Č	Č
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	D	F	F F	F F	F F	F	F F	E .	F F	F	F	F	F	F F	- F	F	F			n	n r	) [		D	D	D.	D
California Ave Off Ramp to California Ave On Ramp	c	D	D C		C D	Č		Č		Ċ	Ċ	Č	c	C D	D.	F	F	F	F	c	0 0			Č	č	Č	Č
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	D	E	E E	D D	E E	E	D D	D	D E	D	D	D	D	E E	E	E	E	E	E	D	D [	) [	) D	D	D	D	D
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	c	c	c c	c c	c c	c	c c	c.	c c	c	c	В	c	c c	c	c	В	В	В	c	c c		. c	c	c	c	c
SR58 WB On Ramp to Real Rd On Ramp		c	c c	c c	c c	c	C D	c	c c	c	c	c	c	c c	c	D	c	D	c	D	c c	: 0	. c	c	c	c	c
Real Rd On Ramp to Ming Ave Off Ramp		c	D D	D D	с с	D	C D	D	с с	D	c	С	D	C D	D	D	D	D	С	D	c c	: 0	: с	С	С	С	С
Ming Ave Off Ramp to Ming Ave On Ramp	С	В	в в	в в	в в	В	в в	В	в в	В	В	В	В	в в	В	В	В	С	В	В	в в	в в	В В	В	В	В	В
Ming Ave On Ramp to White Ln Off Ramp	D	С	D D	C D	D D	С	D D	F	D D	D	D	С	D	D D	D	D	D	F	С	С	D C	: Е	: с	Ε	D	D	С
White Ln Off Ramp to White Ln Loop On Ramp	В	В	в в	В В	в в	В	в в	В	в в	В	В	В	В	в в	В	В	В	В	В	В	в в	3 В	В	В	В	В	В
White Ln Loop On Ramp to White Ln Direct On Ramp		В	В В	в в	в в	В	в в	В	в в	В	В	В	В	в в	В	В	В	В	В	В	в в	В В	В В	В	В	В	В
White Ln Direct On Ramp to SR99 SB south end of the network	С	В	В В	В В	в в	В	в в	В	в в	В	В	В	В	В В	В	В	В	В	В	В	в в	В В	В	, В	В	В	В
SR58 E8 Mainline																											
SR58 west end of the network to SR99 On Ramp	-	Α	A A	Α Α	A A	Α	A A	Α	A A	А	А	Α	Α	A A	Α	Α	Α	Α	Α	A	Α Α	A A	A .	Α	А	Α	Α
SR99 On Ramp to H St Off Ramp	- 1	С	с с	C C	c c	С	с с	С	c c	С	С	С	С	C C	С	С	С	С	С	С	c c	: c	: с	С	С	С	С
H St Off Ramp to Chester Ave On Ramp	D	С	с с	c c	с с	, C	c c	С	c c	С	С	С	С	c c	С	С	С	С	С	С	c c	: c	: с	С	С	С	С
Chester Ave On Ramp to Union Ave Off Ramp	D	D	D D	D D	D D	D	D D	D	D D	D	D	D	D	D D	D	D	D	D	D	D	D 0	) D	) D	D	D	D	D ·
Union Ave Off Ramp to Union Ave Loop On Ramp	D	С	с с	с с	с с	С	c c	, C	c c	С	С	С	С	c c	С	С	С	С	С	С	c c	: c	: C	С	С	С	С
Union Ave Loop On Ramp to Union Ave Direct On Ramp	-	С	с с	с с	с с	С	с с	С	c c	С	С	С	С	c c	С	С	С	С	С	С	c c	: c	: c	С	С	С	С
Union Ave Direct On Ramp to SR58 east end of the network	D	D	D D	D D	D D	D	D D	D	D D	D	D	D	D	D D	D	D	D	D	D	D	D C	) D	) D	D	D	D	D
SR56 WB Maintine																											
SR58 east end of the network to Brundage Ln Off Ramp	D	С	с с	с с	c c	С	с с	С	c c	С	С	С	С	c c	С	С	С	С	С	С	c c	: c	: c	C	С	С	С
Brundage Ln Off Ramp to Brundage Ln On Ramp	С	С	СС	с с	ССС	С	с с	c	c c	С	С	С	С	с с	C	С	С	С	С	С	c c	: c	: с	С	С	С	C
Brundage Ln On Ramp to Union Ave On Ramp	-	C	с с	с с	с с	С	с с	С	c c	С	С	С	С	c c	С	С	С	С	С	С	c c	: c	: с	С	С	С	С
Union Ave On Ramp to Chester Ave Off Ramp		D	D D	D D	D D	D	D D	D	D D	D	D	D	D	D D	D	D	D	D	D	D	D C	. D	) D	С	С	С	С
Chester Ave Off Ramp to H St On Ramp	С	C	СС	СС	СС	c	c c	c	c c	С	c	C	C	C C	C	C	C	C	C	C	c c		C	C	С	C	C
H St On Ramp to SR99 NB Off Ramp	D	D	D D	D D	D D	D	D D	D	D D	D	D	D	D	D D	D	D	D	D	D	D	D 0	) D	) D	D	D	D	D
SR99 NB Off Ramp to SR99 SB Off Ramp	С	С	C C	с с	с с	С	с с	С	C C	С	С	С	C	C C	С	С	С	С	С	C	C C	: с	: с	С	С	С	С

CORSIM ANALYSIS RESULTS - PM PEAK													selected gi	obal param	neter: CFS -	-30%, PCFC	-30% (7 ft), n	ormal distri	butior
							CFS	CF9	CF9	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS	CFS
<u>.</u>	PCFC	PCFC	POFC	PCFC		PCFC PCFC		+10%	+10%	+30%	-10%	-10%	-10%	-30%	-30%	-30%	-50%	-50%	-50%
Freeway Segment	-10%	-20%	-30%	-40%	-50%	-60% -70%	POFC -10%	PCFC	PCFC	PCFC -10%	PCFC	PCFC	POPC	PCFC	PCFC	PCPC	PCFC	PCFC	PCFC
							Normal	-30% Normal	-50% Normal	Normal	-10% Normal	-30% Normal	-50% Normal	Hormat	-30% Normal	-50% Normal	-10% Normal	-30% Normal	-50% Normal
SR-99 NB Mainline	4	<u> </u>	L.				1 110111101	, 110111161	1 110111101		Mariner I				Troimai	1 recovera	1 140111111		
SR-99 NB south end of the network to White Ln Off Ramp	В	В	в в	В	B B	В	В	В	В	В	B i	3	B	В	В	В	В	B i	В
White Ln Off Ramp to White Ln Loop On Ramp	В	В	В В	В	. В	Ā	В	В	A	В	В 8	3	В	A	A	В	В	В	В
White Ln Loop On Ramp to White Ln Direct On Ramp	В	В	в в	В	в в	В	В	В	В	В	В В	3	В	В	В	В	В	В	В
White Ln Direct On Ramp to Ming Ave Off Ramp	С	С	с с	c	: с	С	c	c	c	С	c (	-	c	c	C	c	c	c	c
Ming Ave Off Ramp to Ming Ave On Ramp	В	В	в в	В	В	В	В	В	В	В	в в	3	В	В	В	В	В	В	В
Ming Ave On Ramp to SR58 EB/Wible Rd Off Ramp	с	C	с с	С	: с	С	С	С	С	c	c c		С	С	c	С	С	c :	С
SR58 EB/Wible Rd Off Ramp to Wible Rd On Ramp	В	В	в в	В	В	В	В	В	В	В	В Е	3	В	В	В	В	В	в .	В
Wible Rd On Ramp to SR58 WB On Ramp	В	В	в в	В	В	В	В	В	В	В	в в	3	В	В	В	В	В	в .	В
SR58 WB On Ramp to California Ave Off Ramp	c	С	c c	С	: с	С	С	С	С	С	c c	2	С	С	C	С	С	c ,	С
California Ave Off Ramp to California Ave Loop On Ramp	В	В	В В	В	В	В	В	В	В	В	в в	3	В	В	В	В	В	В	В
California Ave Loop On Ramp to California Ave Direct On Ramp	С	С	c c	С	: с	С	С	С	С	C	c c		С	С	c	С	С	c /	С
California Ave Direct On Ramp to Rosedale Hwy Off Ramp	c	С	c c	С	: с	С	С	C	С	D	c c		С	С	С	c	С	c /	С
Rosedale Hwy Off Ramp to Buck Owens Blvd/Sillect Ave Off Ramp	В	В	B B	В	В	В	В	В	В	В	В Е	3	В	В	В	В	В	в 1	В
Buck Owens Blvd/Sillect Ave Off Ramp to Buck Owens Blvd/Sillect Ave On Ramp	В	В	В В	В	В	В	В	В	В	В	в в	3	В	В	В	В	В	в /	В
Buck Owens Blvd/Sillect Ave On Ramp to Airport Dr Off Ramp	В	В	В В	В	В	В	В	В	В	В	в в	3	В	В	В	В	В	В Е	В
Airport Dr Off Ramp to SR99 NB north end of the network	A	Α	A A	Α	. А	Α	Α	Α	Α	Α .	A	Α .	Α	Α	Α	Α	Α .	A /	Α
SR-99 SB Mainline																			
SR99 SB north end of the network to Airport Dr On Ramp	В	В	B B	В	В	В	В	В	В	В	В Е	3	В	В	В	В	В	В	В
Airport Dr On Ramp to Rosedale Hwy Off Ramp	С	С	c c	С	: с	С	С	С	С	C	c c		С	С	C	С	C	ε	С
Rosedale Hwy Off Ramp to Rosedale Hwy Loop On Ramp	В	В	В В	В	В	В	В	В	В	C	В В	3	В	В	В	В	В	в г	В
Rosedale Hwy Loop On Ramp to Rosedale Hwy Direct On Ramp	С	С	c c	С	C	С	D	С	С	F (	c c		С	С	C	С	С	C (	С
Rosedale Hwy Direct On Ramp to California Ave Off Ramp	E	D	D D	D	D	D	E	E	E	F I	D 0	)	D	D	D	D	D	ו כ	D
California Ave Off Ramp to California Ave On Ramp	С	С	с с	С	С	С	С	С	С	F (	С (		С	С	C	С	C	c (	С
California Ave On Ramp to SR58 EB/Stockdale Hwy Off Ramp	E	D	D D	D	D	D	E	E	E	E	D [	)	D	D	D	D	D	ו כ	D
SR58 EB/Stockdale Hwy Off Ramp to SR58 WB On Ramp	С	С	с с	С	С	С	С	С	С	C (	с с		С	С	С	С	C	С (	•
SR58 WB On Ramp to Real Rd On Ramp	c	С	D C	С	С	С	D	D	С	С (	с с	: (	С	С	C	С	С	С (	ε
Real Rd On Ramp to Ming Ave Off Ramp	С	С	E D	D	С	С	D	D	D	D 1	D (	•	С	С	С	С	С	<i>z</i> (	ε
Ming Ave Off Ramp to Ming Ave On Ramp	В	В	В В	В	В	В	В	В	В	В	в в	3	В	В	В	В	В	3 F	8
Ming Ave On Ramp to White Ln Off Ramp	D	С	с с	D	С	С	D	D	E	F I	E (	: 1	D	D	D	D	D	2 (	ε
White Ln Off Ramp to White Ln Loop On Ramp	В	В	В В	В	В	В	В	В	В	В	В В	3 1	В	В	В	В	В	3 F	3
White Ln Loop On Ramp to White Ln Direct On Ramp	В	В	В В	В	В	В	В	В	В	В 1	В В	3 1	В	В	В	В	В	3 F	3
White Ln Direct On Ramp to SR99 SB south end of the network	В	В	в в	В	В	В	В	В	В	В 1	3 B	3 1	В	В	В	В	В	B E	3
SR58 EB Mainline	1.																		
SR58 west end of the network to SR99 On Ramp	A C	A .	A A	A	C	A	A	C		A /	a, <i>p</i>		•	A C	A	A	Α .		A C
SR99 On Ramp to H St Off Ramp H St Off Ramp to Chester Ave On Ramp	6			C	C	C C	C	c	-			. '	•	C		C C			-
Chester Ave On Ramp to Union Ave Off Ramp			D D	, ,		D		D	-	D 1			-	D	D D	C			-
Union Ave Off Ramp to Union Ave Loop On Ramp	6	-	СС		C	C	-	C	C	C (		'	-	-	6	C		ר נ	_
Union Ave Loop On Ramp to Union Ave Direct On Ramp	L C	-	c c		c	c		c	c			. (		C C	Ċ	C			-
Union Ave Direct On Ramp to Childri Ave Direct On Hamp  Union Ave Direct On Ramp to SR58 east end of the network			D D	ם	_	D	D	D	-	ם מ	) [		-	D	D	D	ם מ	-	D
SR58 WB Maintine	ľ	ט	0 0	U		U	ט	U	ט		, ,	,	ט	U	ט	ט	י	, .	,
SR58 east end of the network to Brundage Ln Off Ramp	<b>1</b>	r	с с	С	С	С	C	С	С	с (		. ,	С	С	С	С		·	С
Brundage Ln Off Ramp to Brundage Ln On Ramp	č	-	с с	c		c	Č	C			-			c	c	C			c
Brundage En On Ramp to Union Ave On Ramp	č	-			c	c	Č	C	c				•	c	Č	C			•
Union Ave On Ramp to Chester Ave Off Ramp	D	D	D D	D	-	D	D	D	D	ם נ		. (		c	D.	D		: (	ć
Chester Ave Off Ramp to H St On Ramp	c	c	cr	r	r	C	c	C	c	C (	,			C	c	c	c i		ć
H St On Ramp to SR99 NB Off Ramp	D	D	D D	D	D	D	-	D	D	י מ			-	D	D.	D	ח ח	D [	-
SR99 NB Off Ramp to SR99 SB Off Ramp	c	c		Č	Č	Č	Č	Č	r				-	c	Ċ	c			ŕ
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